The Builder.

SATURDAY, AUGUST 19, 1854.

THE spread of the modern plague renders necessary a renewal of our sanitary exhortations, and calls for earnest endeavours to lessen its power on the part of all who have means and authority. We are not to be considered as mere alarmists on the approach of danger. At a time when cholera slept we did not fail to point out again and again the existence of a condition of things favourable to its progress, and to ask for that provision against the enemy which science and experience have shown to be potent. Those who have the care of the lives of multitudes, and who when the time of seeming safety had come, discharged the officers of health, with a view towards a paltry saving, and in spite of all warning allowed matters to go on in the old-established manner, have incurred great responsibility. It is true that certain places shown to be abominable and disgraceful have been improved, but it is also true that worse remain unnoticed and unremedied.

Cholera has entered into a new and a more than ever appalling phase of its existence. In former years it passed successively round the globe, so that we had, as it were, but one or two plague-spots on the face of the earth at any one time; but now it is a fearful fact that it exists at one and the same moment in every quarter of the globe,—east, west, north, and south. The subject, therefore, is at present occupying the anxious thoughts of men in every clime and country. With the risk of universal war we have the dread of universal pestilence: it is a terrible time, whatever may be its issue; but that this issue will be for good to the human race we do not for a moment doubt,—good, however, which is to be attained, it would appear, only through and beyond a terrible ordeal. Full time it is that every town and city in the nation, and every nation in the world, were engaged, in thorough earnest, in the adoption of those well-known means and measures whereby the virulence of this pest can be neutralized, and whereby its very existence might, under Providence, be rendered impossible. Amongst these preventive measures there is probably not one more important than the general adoption of means for the constant purification of the air in dwellings and in towns. This is a question in which every one is interested, more especially those of course who dwell in towns, and most especially those who reside in or near the poorer, closer, and more crowded districts; but scarcely less interested than these latter are those who dwell even in the openest and otherwise least unhealthful places; for it is a law of nature that impure air, generated in one locality, immediately diffuses itself far and wide, palliating the mischief certainly at its source, but only by diffusing that mischief elsewhere all around. Thus as Mr. Hopley remarks, in a recently published lecture on "Respiration,"—"Thousands of the London poor are daily saved because the poisons generated about their homes are rapidly spread through the surrounding atmosphere; and though they thereby become diluted and are thus rendered proportionally innocuous, yet that they do contribute to the contamination of the air breathed by every member of the metropolis, from the Queen on her throne to the beggar in his cellar, is a truth as indubitable as the best established fact in natural philosophy."*

Pure air is the vivifier of the blood; indeed, it is the perfecter or completer of the dissolved and chylified food into the form of blood. The vital air, moreover, is not only that which contributes life to the dead blood or chyle, but that which converts it into the fibrinous strength of the body. This fact is only now beginning to be seen by physiologists, but it is one essentially involved in the principle which we announced some years since in this journal, while noticing a work by Liebig on respiration and other vital and chemical functions of the living organism. We there intimated reasons for the belief that the precise nature of the energy or vigour contributed to the blood by the vital oxygen of the atmosphere was *concentrative*. It is under the influence of such an energy that every process of composition and consolidation, as well as every effort of physical strength or muscular contraction, takes place,—nay, that every concentrative effort of the brain is effected. Of truly vital importance, then, to the health and strength—to the life and spirit—of the community is the subject of respiration, and the question of the purification of the air of dwellings and towns.

True it is, that "to purify the atmosphere for a nation is to purify a nation's blood; and to purify a nation's blood is to improve the entire nation physically, intellectually, and morally."

In all places, both at home and abroad, which the cholera has visited, we find it governed by the same laws, destroying numbers in places ill drained, overcrowded, or in which human and vegetable decomposition is permitted to go on amongst the dwellings of the living. In 1849 and 1850, the cholera attacked most of the towns in the United States of America, and it is curious to note how closely the neighbourhoods visited resemble those attacked by it in London, and the large towns of England. In a report of the cholera in the United States in 1849, prepared by Dr. James Wynne, and printed in our parliamentary reports (Vol. 20, A.D. 1852, in the British Museum), Dr. Buel, one of the medical men attached to the New York dispensary, being called to attend some cases of cholera in No. 20, Orange-street, New York, thus describes the locality:—

"This place, so to speak, having been the birthplace and natal soil of cholera, is perhaps deserving a moment's notice. It will be found no matter of surprise that here cholera selected its first victims. A more befitting birthplace could hardly be found within the limits of this or any city.

No. 20, Orange-street, lies about thirty or forty yards in a south-easterly direction from the 'Five Points.' The entrance to the rear lot is gained by an opening scarcely 2 feet in width, or more than 6 feet in height, pierced through the front house; and, passing through this a distance of 40 feet, you reach the rear lot, on which are two old and ruinous tenements, one a prolongation backwards of the front house, the other standing across it at right angles. The adjoining houses are extended backwards in the same manner, thus cutting off almost completely all ventilation, or admission of fresh air. The small area left unbuilt upon is covered with black pools of filthy water.

The apartment, where the first cases occurred, is a basement or cellar, in one of these buildings, sunk entirely below the ground level. The room is about 10 feet or 12 feet square. The door had fallen from the hinges: the sashes of one or two small windows were destitute of glass. There was not in the room, bed, chair, or table, or a single movable, except two empty barrels: the door, removed from its hinges, and laid across these, formed the only substitute for a table. On my first visit, on the 16th May, 1849, five human beings,—one man and four women—lay upon the floor in different stages of cholera. There was nothing under them but mud and filth, and nothing over them but a few rags of the filthiest condition. It is not easy to conceive of human beings reduced to a more abject condition. Civilization and a great city could only offer a parallel to this scene. They were lower than the savages, because the latter would at least have the sky above them, and the pure air of heaven to breathe. They were actually lower than the brutes."

In this locality, in a circle of a few yards, the cholera continued without touching any other neighbourhood for fourteen days. The next place seized was about a mile distant. At the time of the first attack the weather was so cold that it was necessary to light fires for the comfort of the patients. The spring had been cold and wet. In June intensely hot weather set in, and then the disease spread throughout the city.

As is the case in London, there were in many of the sixteen districts of New York crowds of Irish and Germans. This city had also districts which agree with our Agar-town, Maiden-lane, and others: for instance, the sixteenth district or division, was less crowded than other parts; "but," says the report, "there were in operation local causes which sufficiently explain the mortality." There were numerous pigs and pools of stagnant water. "Horse-killing and bone-boiling establishments send forth their putrid miasmatæ: these, with glue, starch, and soap manufactories, produce a combination of villainous odours without parallel."

When the pestilence was sweeping with the besom of destruction over the neighbourhood, *and not till that time of alarm*, did the authorities of New York begin to inquire into and put a stop for a time to these nuisances; when they found in places piles of bones partly covered with flesh putrefying in stacks, and other noxious matters which we will not pain our readers by describing. In the excess of zeal and perhaps fear, these places, as we have already stated, were abruptly closed, and then no other provision having been made for the reception of dead animals, they were thrown here and there—some into the river, where horses, in different stages of decay might be seen moved about by the tide, and lodged in various places to the damage and death of many. Surely this ought to be a lesson to us not to wait, but rather, as we have before observed, to use the greatest exertions before the danger comes, and at a time when these efforts will be attended with benefit instead of evil.

In New York those portions of the city occupied by wide, airy, and well-drained streets, and inhabited by a population whose circumstances and habits of life, by reason of diet, ventilation, and cleanliness, are favourable to health, enjoyed almost a total exemption from the ravages of the pestilence.

The number of deaths in New York, in 1849, amounted to 5,071: of these, 2,219 were Irish, 1,627 natives, and the remainder from different countries.

Dr. Wynne alludes to the number of deaths in New York from cholera in 1832 compared with those in 1849. In the former year the deaths were about double the number of the latter, and the population had increased one-third. "But," says Dr. Wynne, "New York had in the interval between the former and the last epidemic *undergone a considerable change for the better.*"

"The introduction of the Croton water likewise exerted a decidedly beneficial influence in all parts of the town, and contributed largely to the prevention of the rapid spread of the disease."

Our space will not allow us to enter into many

* Churchill, New Burlington-street. 1854. This ably-written essay is intended to form the sixth of a series of plain and simple lectures on the education of man, written with a view to delivery in London, but now separately published as a timely contribution towards the sanitary exhortation addressed to the middle and upper classes, which the advent of the plague to our metropolis renders so advisable at the present moment.

particulars respecting the condition of other cities in the United States: many were, however, as ill off as New York. In East Boston, where whole streets are built on made-ground without means of carrying off the water, there were a number of fatal cases. In New Liverpool-street, a locality similar to Orange-street, New York,—in every instance, says the medical officer, as far as could be ascertained, the houses which were visited by the pestilence *were without proper drains*, while others in the *same locality* and in other ways similarly circumstanced, but well drained, escaped untouched. The cellars in Boston which are inhabited, are said to be numerous: some are used in front for the sale of goods, and the back parts are damp dungeons, without light,—places in which it is wonderful how the lamp of life, under such circumstances, continues to burn for even a day. "It is, perhaps," says the physician, "as great a wonder that such a state of things should in this community be suffered to exist."

Our object is not to alarm, but to encourage, by showing how dependent the disease is on conditions which we have the power to change.

In 1665, the year after the Great Plague, E. Coates, printer to the Company of Parish Clerks of London, published a series of tables showing the particulars of "London's dreadful visitation." In this valuable mass of statistics the bills of mortality beginning 27th December, 1664, and ending 19th December following, are given for each metropolitan parish. The worthy printer, in introducing his sheets to the "Courteous Reader," observes, "I presume that the candour of thy ingenuity is such, that thou wilt not rashly condemn me of imprudence in reprinting these sad sheets; first understanding the reasons moving me thereunto, and then I am somewhat confident thou wilt approve my design." The printer then at some length exhorts his readers to take benefit by the warning and experience they have, and says, "But I am a *printer*—no preacher; I shall therefore waive such discourse, and briefly yet perspicuously render faithful account why I undertake this publication."

"In the year 1625 the stroke of the Lord's hand was heavy upon this city and suburbs, which year was ever since called the *Great Plague*.* Now, though thou hast probably seen several printed general reports given by the parish clerks in that year, yet I am not able to recover all the particular weekly bills thereof: the sight of them hath been much desired these times, but it is beyond my power as yet to answer expectation. That posterity may not again have such loss, I resolved to communicate to the nation these subsequent leaves."

More exhortation follows, and the printer concludes by expressing a hope that "neither myself nor any other of my profession may have occasion for the future to print such dreadful lines." What he did is valuable.

Although it would not be without its use or interest to trace the progress of that great pestilence from parish to parish, and mark its increase and decline as shown in the Parish Clerks' report, we will briefly give a few particulars which are illustrative of our present views:—

The first death from plague mentioned in the report occurred in the parish of St. Giles-in-the-Fields, in the week beginning December 20th, and ending December 27th, 1664. The second death from plague occurred in the same parish in the week commencing February 7th, 1665. From April 18th to the 25th, two deaths from plague are reported in St. Giles-in-the-Fields' parish. All the other 129 London parishes are reported clear. From May 9th to the 16th, we find one death from plague in St. Giles's-in-the-Fields, and two in St. Clement's Danes.

It will be seen by the above statement, that the plague at three different times attacked the parish of St. Giles-in-the-Fields, and left the rest of London untouched. This circumstance is suggestive. It is the popular opinion that the disease was imported from abroad; but the fact that it broke out at intervals during a period of upwards of four months, goes far to prove that, like the cholera and typhus fever, the plague was influenced by local causes.

During the whole time of the visitation of the plague, this particular parish was not for a single week clear; and although the population at that time was small compared with that of other parishes, 3,216 persons perished there of the plague.

The number of deaths from plague in some of the other London parishes in 1664-65 was as follows:—

St. Clement's Danes	1,391
St. Giles's, Cripplegate	4,838
St. Botolph's, Aldgate	4,051
St. Andrew's, Holborn	3,958
St. Margaret's, Westminster	3,742
St. Mary's, Whitechapel	5,583
Stepney parish	6,583
St. Saviour's, Southwark	4,235

And so the population of the parishes was swept away by the pestilence—a scourge so great as to be but feebly understood even by the aid of these figures. Within the metropolitan bills of mortality, says the Parish Clerks' report, 68,596 persons perished; and at that time, it is almost needless to say, St. Pancras, Marylebone, Islington, Paddington, and other immense districts were not in existence.

A comparison of the present with the past is cheering. We see how enormously even the too slow progress of improvement has tended to the preservation of life. The ravages of the cholera in 1849 with an enormously increased population were small as compared with those of the plague in 1664. Nevertheless, it then carried off 14,000 persons in London, to say nothing of those who have fallen victims to this disorder in Newcastle, Edinburgh, Glasgow, and other parts of the kingdom.

It is a frightful thing to think of—but, nevertheless, a fact—that these deaths were caused mainly by our own ignorance and perverseness. We say this, however, not in complaint, but as a reason for acting differently now.

We learn from a valuable body of statistics deposited in the Guildhall Library, that of the 729 deaths by cholera within the precincts of the City, in 1849, 174 occurred in 77 houses; and 4 deaths by cholera took place in each of the following houses, viz. in No. 7, New-street, St. Andrew's-hill, Blackfriars; at No. 13, Seacoal-lane, Snow-hill; and at No. 8, St. Dunstan's-court, Fleet-street. Three hundred streets, courts, alleys, &c. were returned by the nine City registrars as having in each one or more deaths by cholera. Sixteen deaths by cholera occurred in Fleet-street, 9 on the north side and 7 on the south; 12 in Poppin's-court, Fleet-street; 11 in Farringdon-street, 10 on the west side and 1 on the east; 11 in Plumtree-court, Shoe-lane; 9 in Upper Thames-street; 8 in Shoe-lane; 8 in Ludgate-hill; 8 in Sevenstep-alley; 8 in Harp-alley; 8 in Half-moon-street; 8 in Whitefriars-street; 7 in Peahen-court; 7 in Fleet-lane; 6 in Seacoal-lane; 6 in New Bridge-street; 6 in Black Horse-court, Fleet-street, &c.

In the City without the walls, containing 8·2 inhabitants to each house, and 16·2 square yards to each person, there was one death from cholera in each 137 persons.

In the City within the walls, containing 6·6 inhabitants to each house, and 32·0 square yards to each person, there was one death from cholera in each 245 persons.

In the City liberties one in each 171 persons died of cholera.

In London, north of the river Thames, exclusive of the City, the deaths from cholera in 1849, were 6,263, in a population of 1,320,306, or one death from cholera in each 211 persons.

In London, south of the river Thames, the deaths from cholera were 7,133; the population 503,346, or one death in each 71 persons!

In London, within the bills of mortality, exclusive of the City, the deaths from cholera were 13,396, population 1,823,652, or one death in each 136 persons.

It will be seen that the comparative immunity of parts of London may be stated thus: 1st, the City within the walls; 2nd, London north of the Thames (exclusive of the City); 3rd, the City without the walls; 4th, London on the south of the Thames. In the latter division the fearful mortality of 1 in each 71 of the population took place: this was the natural consequence of its ill-drained state—the multitude of cesspools, open ditches, dilapidated dwellings, noisome trades, and those sure accompaniments, a large amount of abject and degraded population, who increase the evil by a manner of living for which the atmosphere they breathe forms too ready an excuse, and, in fact, is in many instances a leading cause.

The following table will explain itself:—

LOCALITY.	Deaths by Cholera.	Percent. of the Total.
In 91 narrow streets, lanes, alleys, &c. there were	239	33
,, 108 courts, yards, &c.	221	30
,, 45 open streets, docks, wharfs, &c.	113	16
,, 53 squares, buildings, places, gardens, rows, rents, &c.	99	14
,, East London Union House	33	5
,, West London ditto	14	2
,, St. Bartholomew's Hospital—Deaths by cholera of persons belonging to the City	110	15
,, Ditto, not belonging to the City	88	12

The registrar's returns for the last fortnight show with frightfully vivid distinctness, by the results, that the same causes are now in operation*!

Several deaths, as we have shown, took place in Fleet-street, yet few in comparison with those in Poppin's-court and other courts, if we take into consideration the difference of extent. The houses in Fleet-street are generally ill drained, and it must be noticed that, in many of the large printing establishments which abound here, both drainage and ventilation are neglected. In most instances the boilers of the steam printing-presses, and the presses themselves, are in the cellars: each room is usually thickly crowded with workmen, and on the staircases there are generally two or three offensive water-closets. In summer nights the blazing gaslights overheat the atmosphere, ventilation is neglected, and a state of things is produced, calculated to lower the standard of health and shorten life. This is a question which concerns us all vitally.

As the Registrar-General observes in his last report,—"The prolongation of the life of the people must become an essential part of family, municipal, and national policy. Although it is right and glorious to incur risk, and to sacrifice life, for public objects, it has always been felt that length of days is the measure, and that the completion by the people of the full term of natural existence is the groundwork of their felicity. For untimely death is a great evil. What is so bitter as the premature death of a wife, a child, a father? What dashes to the earth so many hopes, breaks so many sweet alliances, blasts so many auspicious enterprises, as the unnatural death? The poets, as faithful interpreters of our aspirations, have always sung that in the happier ages of the world this source of tears shall be dried up."

* This plague carried off 35,479 in London, besides upwards of 18,000 who died of other disorders.

* Out of 644 deaths from cholera in the metropolis last week 46 occurred on the south side of the river!

Common sense, energy, and science have here a grand work before them, and one comparatively easy. Look at this one simple fact made obvious by the last census. The mean "lifetime" in Liverpool is but twenty-five years, while the mean "lifetime" in Surrey is forty-five years! The people die twenty years on an average before their time in Liverpool, tried even by the result of a defective state of things in Surrey. The mean "lifetime" of all England is about forty years. *If all England were to form themselves into one large "Society for making the average Lifetime Seventy," and would one and all carry out the rules which science and experience point out and God permits,* THEY WOULD EFFECT THEIR PURPOSE! We should be saying only what we believe to be feasible if we suggested a Society for Living to a Hundred! Who'll join?

The new president of the Board of Health, Sir Benjamin Hall, takes office at a momentous period. In his address to the Marylebone vestry last week, the president said,—"Perhaps you are not aware that the General Board of Health has no jurisdiction within the metropolis. Anything I do must be by suggestions and recommendations. I shall not attempt to interfere in an arbitrary manner in a district over which I have no authority by statute, and in the other districts of the kingdom I think the board should be one of supervision, advice, and counsel, rather than of arbitrary character. I think—and this I wish to go forth—that those who are interested in matters of this kind in their several localities (that is, the ratepayers), ought to undertake as much as possible themselves. But, at the same time, if I find that local authorities having powers given to them essentially for the public good choose to be inactive, and that they allow evils to exist contrary to the good and welfare of the community, then I think it is the duty of the Minister to step in and to take part with the public." It is sincerely to be hoped that he will vigilantly act up to this promise. If he content himself with "advising," little will be done.

At the present moment the most energetic measures should be adopted in the metropolis and all over the country. Not a day should be lost. Every pound spent wisely will save ten even in a pecuniary point of view. As a first step, let us remove all decomposing refuse of every description; lessen the overcrowding of dwelling-places as much as possible; look to the drainage; obtain a good supply of water for all on *Sundays* as well as week-days, and appoint proper inspectors to see the necessary regulations carried out. To those who are nervous personally, and with this we will close our present article, written not to create despondency, but to inspire confidence—not to create a panic, but to organise a resistance certain to be successful,—we would suggest that good spirits resulting from good deeds are amongst the best preservatives.

IS THE NATIONAL GALLERY INDISPENSABLE TO ART CULTURE?

THE public is periodically reminded of the existence of the National Gallery by a fierce paper war, in which imputations are cast either on its management, the originality, or the cleaning of its pictures. To settle these numerous periodical disputes, a committee of the House of Commons examines witnesses—the heated combatants of the number—arranges the collected evidence with great skill to fit a preconceived formula, and publishes a Blue Book. In all these annual controversies, the importance of the gallery is taken for granted, whereas this is far from being an established invincible truth. To me, the attempt to raise art and taste by ancient example appears fraught with inconsistencies, abortive in its results—in a word, rotten with objections. A few years ago such an opinion would have been scouted—it is now, however, gradually becoming a public conviction. I shall disregard, therefore, those secondary and more ordinary questions concerning either management, picture cleaning, or originality, to discuss the one of primary import, and endeavour to prove to those as yet unconvinced, *that the National Gallery is not indispensable to the art culture of the country.**

This institution did not emanate from any spontaneous feeling on the part of the people that it was needed, nor from any deliberate consideration on the part of the Government, whether it might or not be the most direct means of cultivating taste, but from that very fertile source of error in this country, the propensity to imitate the educational systems of nations differing fundamentally in their political constitution from our own, and consequently unadapted to English circumstances and character.

The most celebrated art epochs were not created by national collections of a more ancient art—such galleries are peculiarly of modern institution. If history be interrogated it bears unequivocal testimony to the important fact, that the most distinctive styles of art did not emanate from peoples enslaved by the conventions of pre-existing styles, but from those who wrought at once from nature inspired by the more genial influence either of faith or philosophy. There has never been any attempt, that I am aware of, to prove that the Hindoo, Egyptian, Grecian, Gothic, &c. were tastes created, nurtured, and perfected by galleries of antiquities—scarcely a step can be taken in the investigation of this subject without discovering overwhelming evidence to the contrary, as well as of the ill effects of the modern system; for it may be observed that those nations which possess the best national stores of ancient art—unless as mere formal luxuries—exhibit the least originality. Whenever a nation anchors its art-faith in ancient or foreign example, it only attains a second or third rate position in painting, sculpture, and architecture, and, like the hindmost chariot-wheels, is destined

"Still to be near, but ne'er to be the first."

Rome robbed Greece of her artistic treasures, but after all was only able to heap her spoils together incongruously. Look at Italy and Spain, with their centuries of art, their cathedrals and palaces literally embalmed in painting and sculpture, surpassing both in quantity and quality any possible aggregation of old masters in our National Gallery, yet what is its educational power? What is the modern art and taste resulting from its presence? Many a provincial church even in these countries would be a far better school than the collection in Trafalgar-square if ancient example had power to re-establish the vitality of art, instead of merely encouraging effete ecclecticism.

The historical value of ancient art cannot be denied, but æsthetical and historical value are not necessarily co-related; neither is it unimportant that a people advanced in art should possess memoranda of the various epochs of art: for these purposes, however, the possession of the originals is not necessary; copies, engravings, and casts would answer every purpose required at a far less cost than at present, and without incurring the stigma of spoliation—a spoliation oftentimes sacrificing the decoration as well as the building; for a work of art removed from the position for which it was designed can give but a fragmentary notion of the triumph of successful adaptation—a triumph which may be ranked perhaps as the greatest achievement of art.

Not having a code of simple and perspicuous art principles which will bear the logical scrutiny characteristic of science to satisfy the judgment and guide sense, the proper temper for contemplating ancient art is one of doubt. If there were such criteria, then, indeed, we might affirm or deny the claims of Grecian and Italian art to be considered the *ne plus ultra* of human attainment, criticism might then exercise its high prerogative, judge past and present efforts, emancipate art education from all trammels, and pilot the taste of the future; but, instead of scientific, we have, for the most part, diffuse mystical treatises, which might be a reprint from the age of astrology and alchemy, so little do they partake of the clear practical spirit of the age. The cause of this appears to be the very fashionable but false notion that mystery is the essential element of the poetic. It was, perhaps, oftener and more necessarily so in rude ages, which were not in a condition of mental development to comprehend the higher poetry of real knowledge, which substitutes for the undefined the grandeur of definite conceptions. The mysticism of art compared with the certainty of scientific theory will, perhaps, be better understood by assuming the following positions, viz.:—If all the results of modern science were to be destroyed, these could be presently reproduced, because the criteria or pure theory is possessed which governed their production; but were all the famed Grecian statues and Italian paintings to be destroyed, would art feel that it had merely lost instances, not creative power? If it be affirmed that the creative power of art would not be affected by such a catastrophe, the independence of modern art is virtually acknowledged; if, on the contrary, such a loss be pronounced irremediable and fatal to modern practice, it must be from a consciousness that the true principles of art production do not exist. If modern art works on regardless of galleries of ancient art, why have them? If the true principles of æsthetics be known, why go to the cost of examples we could do without? If we are ignorant of the true principles of practice and judgment, why collect what is not understood, that of which we cannot with any certainty affirm the rectitude? In short, if the true principles of art be known, ancient example is unnecessary; and if they be not, it is useless, because not understood.

It has been often asserted that art power is totally distinct from scientific knowledge; the former is said to be instinctive, and too ethereal to be grasped by the firm apprehension of science: so inconsistent are the opinions which pass current on art topics, that the skill which is one moment exalted with the appellation of "divine," is the next debased, and declared to be the offspring of instinct. If instinct be the ruling power, why lament the degeneracy of art? which in this case must result from an inherent deficiency for which there can be no human remedy; and if this instinct does exist in the people, why spend hundreds of thousands on its past manifestations, which must be useless to a faculty, the charisteristic of which is spontancity? Unless judgment be superior to instinct, all attempts to ameliorate taste must be futile.

Mere imitation, it is true, does not require that higher exercise of the faculties demanded by art. Art begins where imitation ends—art is the essential separated from its accidents. The end of art no less than that of science, is to discover "amidst the mass of fleeting phenomena, the stable pole:" until this invariable point is found, taste must be synonymous with caprice, and we must remain without a criterion by which to rectify the bad influences of fashion and false education, which reconcile men to the grossest absurdities. Habit is the stronghold which holds out longest against truth.

We have been taught to venerate Grecian and Italian works as standards of perfection—our eyes have been moulded to them, and we have been taught to reason from them as established truths; whereas these should conform to principles independently established. Until this be achieved, we must remain in the dark, and must either trust or doubt;—a blind trust is the fruitful source of most art superstitions, but the doubt of true minds is the first step to real knowledge. The conflict of opinion which would result from an abatement of our blind veneration would liberate truth in the long-run, establish taste and modern practice on a more catholic basis, and render picture dealers and art committees quite unnecessary; in fact, a state of things might be brought about in which the profession of the artist might be honoured, and the capacity of its members to rule in matters of taste be acknowledged, and which would finally put an end to that insult-

* Admitting the truth of much that is said by the able writer of the following remarks, we must not be understood as concurring in the full issue of his objections.—ED.

ing and ignorant non-professional interference to which no contemporary profession is subjected.

If it were proposed to read Euclid backwards or to commence teaching in any branch of education with the more difficult instead of the easier forms, the theory would not meet probably with many advocates, yet this is precisely the system of educating by old masters and antiques. Those who uphold the present system declare "that it requires immense acumen and study to understand the perfect, and still more to penetrate the motives of injured examples of ancient art;" and yet from these premises draw the absurd conclusion that therefore such works are well adapted to tutor the student and the public, who are comparatively ignorant in such matters. In the arts as in mathematics there is no royal road to knowledge—there is no magic spell whereby art may be called forth perfect as Minerva from the brain of Jupiter, it must submit to grow and obey the true laws of progression. The same sources of information are open to the moderns as to the artists of the middle ages and of antiquity, why should they not therefore derive directly from these their facts and principles? If the moderns had continued to pin their faith to ancient philosophy as long as they have to ancient art, there would have been no practical science, and it is now familiar to most people that a new era commenced as soon as Bacon convinced the world that it had too trustingly believed in the infallibility of antiquity, and taken for granted dogmas that stood very much in need of verification. It is in the course of nature that arts and sciences should degenerate after their principles have been used for a long period deductively. The experience by which they were built up is forgotten, and the principles themselves are either perverted or misunderstood: an art or science, like an edifice, dates its decadence from the striking of the scaffold, passing through all the lapses of decay, and subjected to all the tamperings of ignorance till it lies an utter ruin.

The arguments opposed to the study of ancient art are often thought to be shaken by the following question:—Are we, it is asked, to cast aside the experience of ages and begin over again? This question, however, arises from a misconception of the exact position taken—experience is confounded with its results. We have the results of the ancient masters' experience, and that is all. The vital "nous" by which these were produced has no record wherein the steps of the experience and the induction of those art canons which were realised can be traced with any degree of certainty. During the great art epochs, experience was transmitted in unbroken succession from master to pupil, and the progressive development of Grecian and Italian art may be observed under the influence of this vital power; but, as with other ancient arts, the transmission of experience ceased in ages past, leaving us mute example instead of speaking principles. There are but two courses to pursue, therefore,—either to think for ourselves, or to imitate what has already been accomplished.

Those who throw off allegiance to the past, however, must bear in mind—a point which cannot be too strictly enforced—that mere literal imitation is inadequate to attain the heights of art. The aphorism which has been so frequently repeated of late, "Imitate nature," is calculated to set the young artist contented at the base of knowledge, instead of awakening that spirit of inquiry and investigation which mounts from facts to principles. Instead of exhorting the student to "imitate nature," it would be far better to exhort him to "study." Imitation will never lead him to comprehend nature, but study may. "Imitate nature!" Why, what else is there to imitate? Photography obeys the injunction. Is the art student to be a camera or a thinking being? As the philosopher and man of science respectively seek to know the central laws of moral and physical phenomena, so, in like manner, the true artist aspires to know and realize the central forms and aspects of the visible world.

If the system of art education by ancient example were correct in theory, there would be insuperable difficulties against its realization in this country. In the first place, we have no one who is qualified to guarantee the originality of works purchased for the national collections, nor do we believe that any one at all conversant with art can conscientiously assert that judgment at all approaching infallibility is possible in this respect. It is quite possible, however, to forge "old masters" without much fear of detection. Artists, dealers, and critics have been deceived over and over again, and will still be deceived as long as the present absurd system is maintained. If the nation buys Raphaels, Correggios, &c. at all, therefore, it must necessarily be at the "mercy" of the dealer and parties interested in the sale of pictures, whose policy it is and will be to abuse all purchases till they get the power of recommending on their own account, and then everything will be well varnished and original.

The *chef d'œuvres* of ancient and mediæval art are guarded with jealous care, and are seldom to be obtained at any price from the continental cities and towns to which they belong. The opportunities, therefore, for purchasing first-rate works, must consequently be very, very rare. The possession of dingy paintings, however, being fashionable, and therefore much coveted, this morbid taste must be appeased by second or third rate works, which, if not forgeries, are from the scum of antiquity, which is constantly floating into the English market.

Let, however, the supposition be entertained for a moment, that specimens may be obtained of unimpeachable originality; yet, as examples, they would still be imperfect, not merely from artistic short-comings, but from those deteriorations effected by time and chemical changes, which are far from inconsiderable. The least acquaintance with the nature of the vehicles and pigments used, would be sufficient to convince most persons, that even such masterpieces would neither be faithful representations of what they were when fresh from their author's hands, nor of the intentions of those who may have painted them. At best, therefore, such specimens are calculated to mis-educate; for these very imperfections come at last to be esteemed beautiful by force of habit. The power to separate truth from its obscuring accidents could scarcely be expected from those who are taught to revere these works as the criteria of judgment. The only objects successfully accomplished by the present system, appear to be the encouragement of the old-master mania—the "keeping up" of the exorbitant prices of old pictures, and the patronage of imposition by the premium offered to deception.

If the present system of art-education be false in principle, it may be asked, what is to be substituted? To which it may be replied,—Continue to improve the system of general education; insist that ocular and aural art be included in that education. The more general education is improved, the more elevated will taste become,—the greater will be the demand for the exercise of art, and the greater the stimulus to achieve excellence. Employ art more extensively in public buildings; let the National Gallery be entirely modern—chiefly, but not exclusively, English; let there be specimens of the talents of eminent foreign artists as well as of our own. These are—as they always have been—the only successful methods of raising and fostering art. We are told that "Greece and Italy demanded sculptures and mural paintings,—the one to commemorate its heroes and realise its mythology, the other to adorn its churches and altars with illustrations of faith;" that "art gradually rose through successive gradations, rising from the feebleness of infancy and the beauty of youth to the grandeur of manhood;" and that "in the pre-Phidian and pre-Raphaelite babyhood, art merely endeavoured to imitate the individual, but as it grew in years and strength, better reason led to the contemplation and realization of the ideal." Why, then, if the excellence of the result of this progressive development be acknowledged, should another course be adopted under the false impression that art may be forced to culminate by unusual means. It is as vain as would be the attempt to make infants wield the weapons and armour of men. Imagine the stimulus modern art would have received had the more common-sense means indicated been adopted, and the hundreds of thousands spent in the purchase of old pictures been devoted to the employment of English artists. All that is necessary to insure the progress of art is to educate the people properly and employ the artist. But no,—non-professionals have the presumption to set themselves up as teachers, and lord it over those immeasurably more capable. From these it would appear that the English artist is not to be trusted; he is so ignorant, base, and indolent, that a committee of taste must teach, chastise, and rouse. We do know that such tribunals embarrass invention, give the artist many heart-pangs, and ultimately enfeeble his work. Has not art struggles enough in this country, without this "break" upon its progress? Away with this absurd system,—employ the accredited only, if the talent of unaccredited men cannot be discerned, and let them act without interference. The nation may wait long enough for the perfecting of art, if artists are not employed. It is the business of the nation to set talent into activity, to make it worth men's ambition to devote their energies to the study and improvement of the fine-arts, not to interfere with the legitimate pursuits of artists. It may safely leave the rest to that spirit of emulation which perfected art in ages past. At present England has to look forward to the possessors of industrial wealth for its art-future; their sympathies are not with dead forms, but living ideas. They are becoming extensive purchasers of easel pictures, and, in some cases, have even commissioned mural paintings. Their example will, by and by, be followed by public companies in their halls and buildings; and there can be but little doubt that, in the course of time, our railway stations will be decorated with paintings, offering, as they do, splendid surfaces for the display of historic and poetic art.

METER.

CHURCH-BUILDING NEWS.

Fishtoft.—The parish church (St. Guthlac's) having undergone various decorations and restorations, has been re-opened. In scraping away the yellow plaster, three windows were revealed, evidently of early Norman architecture, and two aumbries in the chancel, of same period; thus rendering it probable that the present nave and aisles were added to the old Norman building. The old square pews are replaced with open oak seats; the west gallery, which blocked up the tower arch, has been removed; and the chancel screen has been restored. The walls throughout have been stripped of plaster, and pointed, the sacrarium repaved with encaustic tiles, and the altar raised on its foot-pace, and elevated. The organ now stands at the east end of the south aisle. The east window, it is hoped, will soon be filled with stained glass.

Spilsby.—Hundleby Church, which has for a long time been mouldering to decay, is being demolished preparatory to a new one being built on its site. The contractors for its erection are Messrs. Ruddall and Thompson, of Peterborough.

Louth.—The foundation-stones of two chapels at the new burial-ground on Julian Bower-hill, were laid on Friday week. One of these chapels is intended for Dissenters, and the other for those of the Established Church. Messrs. Bellamy and Hardy, of Lincoln, are the architects, and Mr. Levitt is the contractor. The grounds will be entered by arches, or gates, from the east and west,—the latter, on the London-road, in the old baronial style.

Newport (Isle of Wight).—The foundation-stone of the new church of St. Thomas is to be laid on 24th instant, by his Royal Highness Prince Albert, according to the *Hampshire Advertiser*. The interior fittings of the old church and the roof are being removed, and a large north-eastern portion of the outer walls will be levelled so as to arrange most conveniently for the laying the foundation-stone, it being intended to have standing room for at least 2,000 persons on that occasion. The numerous vaults, which appear to cover the whole area of the interior, will scarcely be disturbed in any way. A quantity of square mozaic paving tiles—black, white, and yellow—have been found under the pew flooring. Mr. Halls, artist, has made several sketches of the

old church, giving different views of the exterior; and Mr. Frampton has just published a view of the interior by Mr. Philip Brannon. It is said to be the intention of her Majesty to erect a monument to the Princess Elizabeth, daughter of Charles I. who was buried in this church, and whose remains were found in a vault near the altar, in 1793, when the churchwardens removed an old copper-plate from the churchyard wall (placed there *over* an inscription to the memory of an old pastor of the parish, who "disliked that dead bodies should be buried in God's house"), and inserted it into a stone near the altar, with an inscription on the back of it, to the memory of the princess.

Northfield.—The parish church, the chancel of which was restored a few years since by the rector, Rev. H. Clarke, is undergoing repair. The flat ceilings which have hitherto disfigured the edifice have been removed, and the original oak principals are being worked as far as possible into the new roofs, which will be open, and in conformity with the original design. The south wall is being restored, new buttresses having been added; as also mullions and weather mouldings to the windows. In the chapel in the south aisle, a decorated piscina (indicating the former existence of an altar) has been brought to light. The sum necessary for the completion of the work, about 500*l.*, has been raised chiefly by subscription. The Rev. H. Clarke has, at his own expense, recently restored the chancel of Cofton Hacket, one of the chapels of ease to the parish church.

Mold.—On Thursday week, according to the *Chester Chronicle*, the corner stone of the new apse, which is now being added to the parish church, through the liberality of Mr. J. W. Eyton, of Leeswood, was laid by Mr. Eyton.

Liverpool.—A local correspondent sends us some further particulars as to the new church of All Souls, to be built for the Vauxhall district. The style is Early Decorated, the plan cruciform, the porch being under the tower, which will be surmounted by a broach spire. The nave and transepts are in one span, and galleries will be erected across their extreme ends. Mr. A. H. Holme is the architect. The local prints inform us that "the interior will be free from unsightly pillars in the nave and every other part," and that Grassendale Church (with which it is almost identical in plan) has given great satisfaction to the public. Our correspondent adds, "As this church seems to be considered a model in Liverpool, it may be as well to point out some objectionable features in it. The absence of the 'unsightly pillars' gives place to an ungainly breadth of nave and transepts, while the apsidal chancel (by no means a large one) looks especially dwarfed by the contrast of the broad nave: for the same reason the side-walls are comparatively low; so that the small windows are not sufficient to light the more elevated pulpit, which has therefore to be lighted by a square skylight in the roof, which is anything but an addition to the beauty of the building. The pews are made after the model of last century, plain square boxes, and the whole of the interior mouldings, bosses, corbels, and other ornaments, instead of being carved in wood and stone, are shabby imitations in stucco and plaster. The chief defect in the comfort of the church arises from the huge expanse of roof, which, being exposed to the sun, causes great heat during summer. It is to be hoped that some of these defects will be avoided in the new church of All Souls. It would also be well to avoid the use of chimney-pots on the exterior, and especially one *sticking out of the side of the spire*, as at Grassendale. A new organ of considerable power and sweetness is now being erected in this church."

Birmingham.—The foundation-stone of a new chapel, about to be erected in Long-acre, Nechell's-green, in this town, for the Primitive Methodists, was laid on Monday in last week by Mrs. Sarah Cooke, of Aston Manor. The building will be erected by Messrs. Cornish, builders, of Bloomsbury, from a design by Messrs. Fallows and Smith, of this town, and will afford accommodation for about 250 persons.

Wem.—The new cemetery for the parish of Wem has been consecrated by the Bishop of Lichfield. The chapel is entirely composed of Grinshill stone, and is in the Early English style of architecture. A shafted doorway forms the entrance, the arch being enriched with the tooth ornament. Above this is a triangular window, which, with one of three lights at the opposite end, is filled with stained glass. The side walls contain single lancet lights. The roof is of the trussed rafter description, and open, and the timbers stained to imitate oak. The flooring of the entire building is of the Staffordshire red and blue tile. On the exterior effect is gained by elevating the building on a terrace about 18 inches above the general level of the ground. The cemetery is surrounded by a wall, the main front having an arched entrance with ornamental gates, the walls on either side being relieved by buttresses, finished by a moulded coping. Mr. Dodgson, of Shrewsbury, executed the several works, which it appears he also designed. The land comprises nearly an acre.

Elvaston.—Some time ago a painted window was erected in Elvaston Church to the memory of the late Earl of Harrington, by the Countess Dowager of Harrington. A voluntary memorial to the late earl has now been added in the form of a carved oak screen, under the superintendence of Mr. H. I. Stevens, of Derby. The screen stands in the chief arch under the tower, beneath the window, but about 16 feet in advance, and bears an inscription in Gothic characters.

Clifton (Derbyshire).—The foundation-stone of a church school was laid on Tuesday in last week at the village of Clifton, near Ashbourne. Mr. W. Evans, of Ellastone, is the contractor for the building, which will contain a teacher's residence besides the school.

Salford.—St. Stephen's, Salford, has been further restored at a cost of between 400*l.* and 500*l.* The body of the church has been repainted fawn colour; the pillars supporting the galleries and the roof painted in imitation of Sienna marble, and the old green baize on the pews has been taken off, and the whole stained. The front of the galleries has been painted in imitation of oak, with gilded mouldings. The chancel is painted in light green and drab, and on each side of the stained glass window placed there some time ago, niches are left open upon which to paint the Decalogue. The windows have been restored, and, at the same time, of altered shape. One gentleman has presented a medallion window, by Howe, of London, for the baptistry, the subjects being the Presentation in the Temple, and other events in the early history of our Lord. Another for the south side of the church is in preparation, by Hardman, of Birmingham. These, together with the east window, given a few years ago as a memorial of the late incumbent, will make three stained windows. A gentleman has offered a sum for the decoration of the new apse, also built a few years ago, which will be proceeded with as soon as the design is completed. The entrance into the body of the church has hitherto been by two side doors opening directly upon the aisles, exposing these parts of the edifice to draughts. The entrance is now through porches converging first into the baptistry, and then opening into the centre of the nave.

Crosby.—The foundation-stone of the new parish church of Crosby-upon-Eden was laid on 3rd inst. by Mr. W. N. Hodgson. The design was furnished by Mr. R. H. Billings, architect, and will be carried out by Mr. Charles Armstrong, builder.

THE SALTAIRE ALPACA MILLS, NEAR BRADFORD.

WE have, at different times, mentioned and described the enormous establishment erected in the valley of the Aire, near Bradford, in Yorkshire, by Mr. Titus Salt. The accompanying engraving represents the principal front of the mill proper, and we give also a plan of the ground floor. The architects were Messrs. Lockwood and Mawson; and Mr. Fairbairn, who has given full particulars of it in his recent work "On the Application of Cast and Wrought Iron to Building Purposes," reviewed at the time in our pages, was the engineer.

The size of the building is colossal. The floor area is about 12 acres. The main range of buildings, or the mill proper, runs from east to west, nearly parallel with the lines of railway from Shipley to Skipton and Lancaster. This pile is six stories high, 550 feet in length, 50 feet in width, and about 72 feet in height. A bold Italian style has been adopted, and it is carried out in stone. Immediately behind the centre of the main mill, and at right angles with it, runs another six-story building, devoted to warehouse purposes, such as the reception and examination of the newly-manufactured goods; and on either side of this, again, lie the combing-shed, or apartment, wherein the fibres of the alpaca, mohair, wool, &c. are combed by machinery, and the handsome range of buildings devoted to the reception of offices, and the great shed for weaving by power-looms.

The mill has a cellar-story 10 feet high, extending on either side of the engine-houses to the extreme ends of the mill. The first story is 16 feet from floor to floor; the next four stories are each 14 feet high; and the fifth, or attic story, measures 8 feet from the floor to the tie-rod, and a further distance of 9 feet 6 inches from the tie-rod to the apex of the roof, making the total height of this attic story 17 feet 6 inches. It must be further remarked, that this top story, being above the levels required for the entrance archway and the two engine-houses, extends from end to end of the building, 550 feet; and is supposed to be the largest room in Europe, not excepting the Long Gallery of the Louvre at Paris. The whole of this building is fire-proof, with stone walls, cast-iron columns, and hollow brick arches. The side-walls throughout the entire length of the structure are made hollow. Through these openings a supply of pure fresh air to each room is admitted and regulated a few inches above the floors; and corresponding outlets for the heated or vitiated air are provided above. Each room is longitudinally divided by a single row of columns: and it was found expedient to form two unequal spaces, in order to accommodate the machinery, and leave in the centre a thoroughfare free from obstruction. The divisions are, therefore, respectively, 27 feet 6 inches and 22 feet 10 inches. In its construction as a fire-proof structure, the mill varies from the usual practice in one important particular, the arches for supporting the floors being constructed of hollow bricks.

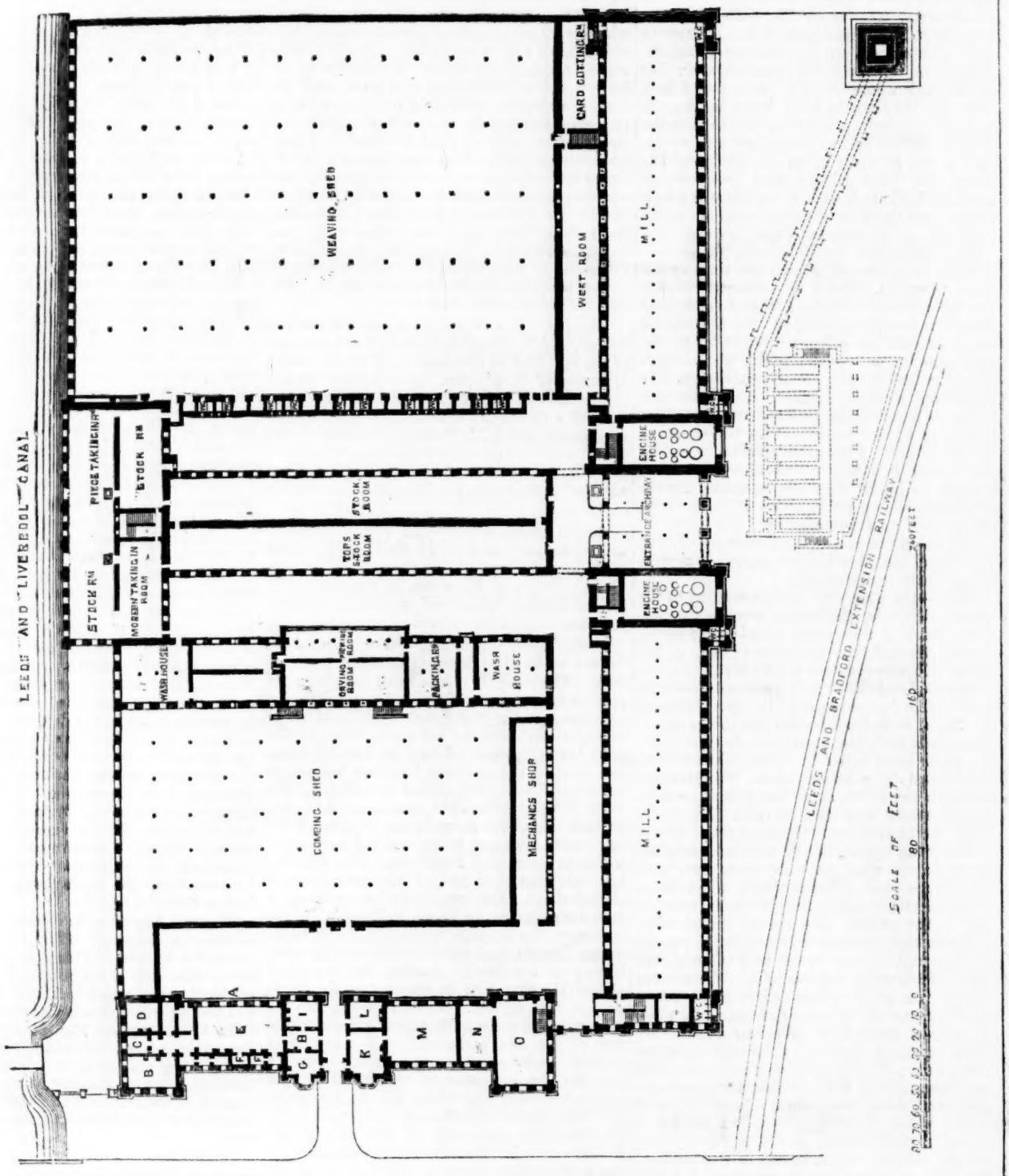
The roof, like the other parts of the building, is entirely fire-proof. It is composed of 128 principals, formed of T-iron, angle-iron, and tie-rods. The ends of the principals are fitted into cast-iron shoes, which rest upon the walls; and to these again are attached horizontal transverse rods, which support the principals, and retain the whole in form. From the top, on each side of the ridge, and along the whole length of the building, the room is lighted with glass, and the position of the frames is so situated as to render the room at once light and cheerful in appearance.

In the large weaving-shed, on the plan, it will be observed that it is divided into parallelograms of 36 feet in one direction, and 18 feet in the other. At the angles of each division cast-iron columns are fixed, which support thirteen lines of cast-iron gutters; and these gutters are constructed of such dimensions as to form entablatures for the columns, and supports for the reception of the roof, which extends from east to west, in the same direction; as also the glass divisions in every compartment which face the north, and give nearly at all times of the day a steady uniformity of light.

The peculiar features in this department are, that the mill-work and driving-gear are all below the floor; and the whole of the immense area is free from the obstruction of straps, wheels, drums, or other impediment, tending to obstruct the view. The result of this is, that the overlooker has full command of the whole room at a single glance.

The gas-works are situated at the lowest point of the land, between the canal and the river; and the gasometer-tank, 62 feet diameter, and 20 feet deep, is sufficiently low to be filled either from the large water-pipes or reservoir intended to supply the town of Saltaire, or from the canal, which flows at a level of about 23 feet above the bed of the river. The gasholder is 60 feet in diameter, 18 feet deep, and contains 50,000

GROUND PLAN OF THE SALTAIRE MILLS.



cubic feet of gas, or a supply sufficient to maintain 5,000 lights. The works are supplied with soft rain-water collected from the roofs, and the condensed water from the steam used in heating the mill.

The prime movers of the Saltaire mills are two separate pairs of condensing steam-engines, situated, as shown on the ground-plan, at each side of the main entrance. These engines are calculated to exert collectively a force of not less than 1,250 horses, calculated according to the usual rule of a horse-power, being equal to a weight of 33,000 lbs. raised one foot high in a minute. The flame and gases from the boiler-furnaces are gathered into one main flue, which runs direct to the chimney-shaft. The shaft stands at some little distance in front, and rises to a height of 250 feet! It is built of stone, in the style of an Italian campanile; but to preserve the column from the action of the heated currents, and to preserve a parallelism of flue from bottom to top, it is lined with a casing of fire-brick, which leaves a space of warm air protecting the external walls, and maintaining a perfectly uniform and efficient draught.

The total length of shafting is upwards of 10,000 feet, or very nearly two miles, varying from 14 inches to 2 inches diameter, weighing upwards of 600 tons, and revolving at velocities varying from 60 to 250 revolutions per minute.

The capabilities of Saltaire mills may be measured by the statement, that it will contain within itself the means, of every kind, of preparing, from the raw material, the supply for not less than 1,200 power-looms; and that the daily yield or production of these 1,200 looms is the astounding total of 30,000 yards of alpaca, or mixed cloth per day, or upwards of 5,000 miles per annum.

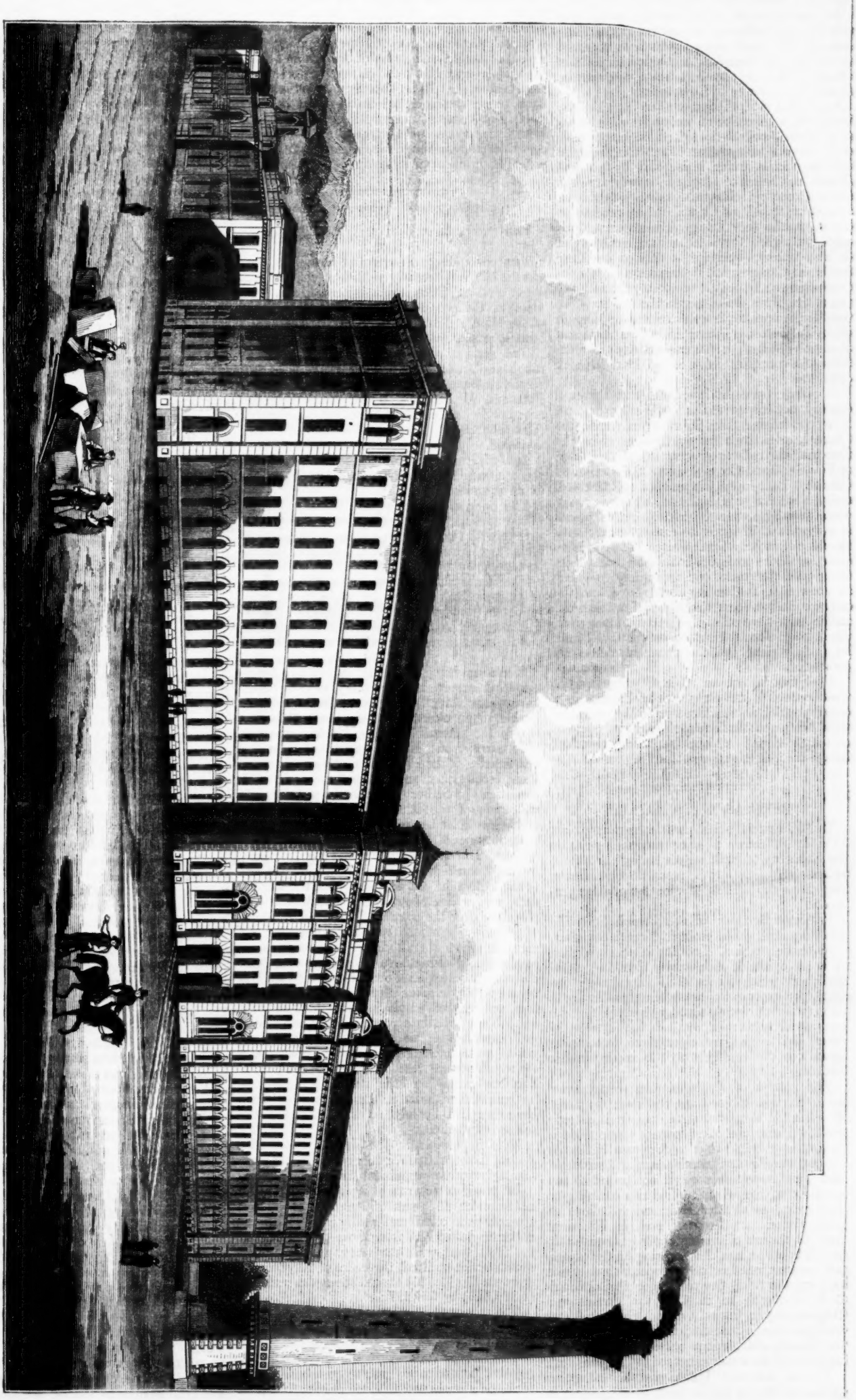
REFERENCE.

AA. Office buildings.
B. Private dining-room.
C. Store-room.
D. Bed-room.
E. Principal counting-house.
FF. W.
G. Private counting-house.
H. Entrance-lobby.
I. Waiting-room.
K. Porter's-room.
L. Foreman's counting-house.
M. Small store-room.
N. Silk warping-room.
O. Warp Stock-room.

Amongst the collateral works, we may mention that only upwards of 700 houses and cottages for the workmen, with shops, &c. form part of the design, about 150 of which are now in hand or completed. Baths and wash-houses, a covered market, schools, church and parsonage, and model lodging-houses for the work-people are also projected, and will steadily be proceeded with. The gas works, constructed on White's hydro-carbon principle, are on the point of completion, while a tubular girder bridge, in 5 bays of about 70 feet length each, spans the canal and River Aire, thus giving access to the property lying on the left bank.

Our Roads.—Nothing short of granite masonry, it seems, and hardly that, is adequate to the incessant wheel traffic of a London highway; but admitting this, might not part of the benefit of the departed wood pavement be retained by a side border of wood or of an elastic body to deaden the noise and intercept the vibration from the houses, thus conducing to their longevity and the comfort of their occupiers. The latter half of the advantage, at all events, will be admitted by readers of the *Builder*.

T. T.



THE SALTAIRE MILLS, NEAR BRADFORD.—MESSRS. LOCKWOOD AND MAWSON, ARCHITECTS.

RAILWAY REFORMS.

In your paper of the 5th inst. you notice very properly the inefficiency of our railway carriage system; and though many letters have appeared on the subject, there is a certain defiant position taken by these monopolists which can only be checked by a decree of Government.

On arrival at a junction or a terminus station, frequently a detention of ten or fifteen minutes takes place to collect the tickets, and sometimes much more before you can obtain your luggage from the van in which it is piled by ignorant porters, regardless of strength or weight; but remonstrance is useless, and a station-master is a mere myth. Now Crystal Palace detentions are excusable, they being pleasure excursions only; but when (considering the monopoly of all land transit) business is delayed by King Rail's mismanagement, it becomes a matter for a Government remedy, and more especially, as you notice, from the danger to the fair sex. The traveller, it appears, is no more secure than, in Dick Turpin's day, were Hounslow-heath and Shooter's-hill; or in the present day those unfortunate countries infested by Bashi-Bozouk *protectors*.

England is a most wonderfully enlightened country, but it appears the Far Westers beat us. However, leaving them far away, only cross the Channel, as I have frequently done since the time that the railway *convois* superseded those of Van Gend and Co. and enter the station at Ostend. Your luggage is weighed and ticketed, and you receive your duplicate: all the luggage which you have yourself pointed out is placed in a large van, divided into compartments, with the name of each station indicated. The carriages have *hand*-bars and *foot*-boards on each side, along which the guard can pass safely; so that as soon as a station is passed he enters the carriage and collects the tickets for the next, and so on to the end of the journey. On arrival, the luggage for that station only is taken from its compartment, and the traveller claims his own by his ticket.

Now this is not an affair of yesterday, but what occurred sixteen years back, and in a country which is considered primitive compared with this; and further, each carriage contains a danger-signal, which, on being sounded, brings the guard, and assistance of course.

R. D. C.

ZINC AS A COVERING.

In Mr. Burnell's last article in your paper, "On the influence of some external agents on the durability of building materials," he comes, as it seems to me, to a groundless conclusion respecting the fitness of zinc for roofing purposes.

Professor Berthier, of the French Scientific Academy, and other eminent French chymists, unite in the opinion, that the coating referred to is an oxide of zinc harder than the metal itself; and which forms itself immediately the sheets are exposed to the air, and adhering to them (without becoming any thicker), forms a permanent protection against the attacks of gases, and the impure atmosphere, in a similar manner to the verdigris on the ancient bronze statues.

The results of the numerous experiments made on this subject are confirmed by facts. Mr. Burnell is mistaken in saying it is only used in Paris, and other towns, where wood is the ordinary fuel. It is very generally used in the coal mining and manufacturing districts of Liege, and it certainly could not be put to any greater test than when applied as a covering to gas works, as at Charleroi, and I believe at other places. At Brussels coal is the usual fuel, yet the use of zinc for roofing is constantly on the increase, and the covering on the principal theatre there has had no repairs since it was laid on, now thirty-five years ago. And although it is employed in most of the French and Belgian seaport towns, I cannot choose a better example than Marseilles, where it is subject to the sea air, and noxious gases arising from the bad state of the water, increased by the great heat.

I think, however, I can give the real reason of the results not having been so satisfactory in England.

It is well known by numerous experiments and examples that, in order for the oxide to protect the sheet, there must be a sufficient thickness of pure metal between the two coats of oxide, otherwise they will meet, and so consume the sheet; and it is for this reason that the thin layer of zinc over galvanized iron is so soon destroyed. It is, therefore, necessary to use a proper thickness of metal, which is very rarely the case in London, but if employed, would render zinc as advantageous a mode of covering here as on the continent, where the principal argument in its favour is its durability.

R. G. F.

RESULTS OF THE CENSUS OF 1851.

THE PROGRESS AND OCCUPATIONS OF THE PEOPLE.

The concluding volumes of the results of the Census of 1851, recently published, contain the ages, civil condition, occupations, and birth-place of the people, with the number and ages of the blind and dumb, and the inmates of work-houses, prisons, asylums, and hospitals.

The mass of information collected, and here tabularized, under the skilful direction of the Registrar-General, and his able coadjutors, Dr. Farr and Mr. Horace Mann, will sufficiently account for the length of time that has elapsed (since March 1851) before these volumes have appeared.

In former numbers of this journal,* a brief account will be found of the number of people, families, and homes.

The portion of the present Report referring to the ages and civil condition of the people, is replete with the most interesting and important facts, and summary tables of vast importance, presenting for the first time facts upon the most interesting social questions, and opening a field of philosophical inquiry, by which truth will supersede theory, and exact knowledge of facts will not only influence legislation, but regulate and improve the social condition of the British race.

A census being a national as well as a topographical survey, it is necessary, so as to reach the interest of all, to give, as far as is practicable, detail returns; and this accounts for the size of the present abstracts, for they give, not only county, but district returns of all males and females of the age of 20 and upwards, with their birth-places and occupation; their civil condition; whether unmarried, married, or widowed; of the blind and deaf—a branch of statistics hitherto comparatively unexplored; with a return of inhabitants of all public institutions. But the most interesting page, perhaps, is that to which Mr. Petermann's map is annexed, which he has compiled from the tabular data, and which shows the distribution of employment over the country, illustrated by means of ingenious symbolic devices representing the manufactures and crafts in which the masses are employed. Neither have the industrial or agricultural statistics been overlooked, for here is a return of the number of men employed by masters, and masters employing men, both in trade and labour, with the acreage of farms, cultivated and uncultivated; and although these latter may not be quite so complete as may be wished, and for which several reasons are given, yet the deductions made from the returns obtained may be received with faith, considering they have been compiled by men so well skilled in the science of statistics.

It is impossible in the limited space of a journal like the *Builder* to give anything more than a few of the prominent facts.

In previous returns of ages the number of males under 20 years of age and of 20 and upwards were considered nearly equal; but more elaborate deductions from those of 1851 reveal the facts that, with the army, navy, and merchant service omitted, the males of 20 years and upwards (5,475,540) exceed the males under 20 (4,779,313) by 696,227.

The number of the population of the age of 20 and upwards in 1851 exceeds that under the age of 20 by 2,068,782.

The Report states that the increase in the population under 20 years in the 30 years (1831-51) has been 2,577,046, whilst that of 20 and upwards has been 4,185,163. The males from 20 to 40 in the same period has increased 1,226,832, and the females 1,243,073. The population under 20 years has increased during the 30 years 37 per cent. whilst that of 20 to 40 years has been 60 per cent.; 40 to 60 years, 55 per cent.; 60 to 80 years, 45 per cent.; and that at the extreme period of life, after 80 years, only 34 per cent.

Assuming that the population under the age of 10 years and at 70 and upwards are ineffectives, and chiefly sustained by the industry of those from the age of 20 to the age of 60, it will follow that in 1821 the 6,367,991 persons of the two middle ages sustained 4,355,166, or 68 per cent. of the ineffectives; while in 1851 only 5,797,295, or 57 per cent. were sustained by 10,082,296 of effectives. Tested by these facts the strength of the nation has increased faster than its numbers.

In showing the proportion that enter each of the five ages that are characterised, the Report says, "If 100,000 children, born at the same time, are followed and numbered at equal intervals in the journey through life, it is found that, according to the present mortality in England, 66,061 enter at the age of 20 the second; that 53,824 enter at 40 the third; that 37,998 enter at 60 the fourth; that only 9,382 live through the four, and at 80 enter the fifth age, which it is not probable that more than one or two will pass over."

The *probable lifetime* of a male at birth in England is 45 years. The mean *lifetime* that males live after birth in England is 40·36. The mean age of the male population of Great Britain in 1851 is found to be 25·87. The average age of marriage in England is 25. The number of persons in 1851 under 25 being 11,573,377, and 25 and upwards, 9,611,633. The proportions of the married in the population of Great Britain, amount to 33 in every 100 males, and to 32 in every 100 females, of all ages.

If the women of Great Britain at the age of 20 and upwards are compared with the *men at home* only, the numbers in excess are 540,579, and at the age of 20—40 the excess is 261,060. Many women of this age are, however, married to men of ages further advanced.

Great Britain contains 3,391,271 *husbands*, and 3,461,524 *wives*, 382,969 *widowers*, and 795,590 *widows*: from the age of 20 and upwards the *bachelors* amount to 1,689,116; the *spinsters* to 1,767,194.

The Report, after considering at some length the principle and progress of population, concludes by stating, "that there is nothing, in the past or in the present conjugal condition of the population to inspire any apprehension of a redundancy or a scarcity of population in Great Britain, but a great deal to encourage the policy of further improvement in their condition—in the training of the young, in the circumstances in which children are born and families live; so that the British race, growing better and greater, may increase in numbers at home, and continue to send out every year thousands of new families to the colonies." The abstracts of occupations which follow, show how the 21,000,000 of people individually are employed. The greatest value must be attached to these, as numerous important results can be deduced, and much statistical information gathered of the state of industry and agriculture in the several classes.

The difficulties encountered in correcting and tabularising the errors of nomenclature were very great. The whole population had to be passed in review, and the several thousands of names classified under their respective heads. An alphabetical list, amounting to 1,260 distinct occupations, is given of males and females under twenty, and twenty years of age and upwards, from which any one can with ease make a classification for his own use. The double occupations were a source of great difficulty, as, for instance, a member of Parliament is often an occupier of land, and an innkeeper a farmer; but difficulties such as these have been surmounted, and a classification adopted, on which, "at a future census, such inquiry may be made into the industry of the country, in all its ramifications, as may be in every way useful, and tend at once to extend science, to promote production, and dissipate subversive theories." The distribution of the population is into two

* Aug. 6 and Nov. 12, 1853.

great groups, (1) those that work, and those (2) who have no definite occupation; and a due deduction being made for infirm persons, and parties retired from trade or professions, the number of the second class will not be found great.

Those engaged in definite occupations are arranged into fourteen distinct classes, and these again into sub-classes, so that producers, distributors, and consumers, can be ascertained at a glance.

The annexed table shows the occupations of males and females of Great Britain and Isles and London:—

OCCUPATIONS.	GREAT BRITAIN AND ISLES.				LONDON.			
	Under 20 Years of Age.		20 Years of Age and upwards.		Under 20 Years of Age.		20 Years of Age and upwards.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Total	4,764,743	4,737,535	5,458,815	5,908,384	474,013	493,260	632,545	762,418
Persons of Specified Occupations and Conditions	4,750,536	4,704,455	5,404,029	5,924,604	472,388	488,759	621,198	749,124
CLASSES.								
THE QUEEN	—	—	—	1	—	—	—	—
1. Persons engaged in the General or Local Government of the Country	1,486	89	71,191	2,526	367	7	18,960	219
2. Persons engaged in the Defence of the Country	7,773	—	88,714	—	1,101	—	17,946	—
3. Persons in the Learned Professions (with their immediate Subordinates), either filling Public Offices, or in Private Practice	12,451	53	98,279	1,410	2,631	28	21,782	656
4. Persons engaged in Literature, the Fine Arts, and the Sciences	4,692	8,318	41,618	64,336	861	1,345	8,881	11,562
5. Persons engaged in the Domestic Offices of Wives, Mothers, Mistresses of Families, Children, and Relatives*	3,389,492	3,780,565	21,779	3,227,150	363,559	409,145	3,160	396,389
6. Persons engaged in Entertaining, Clothing, and Performing Personal Offices for Man	120,504	458,168	512,209	1,329,292	15,587	66,840	88,176	266,311
7. Persons who Buy or Sell, Keep, Let, or Lend Money, Houses, or Goods, of various Kinds	20,372	2,690	130,389	56,010	6,078	369	35,984	8,266
8. Persons engaged in the Conveyance of Men, Animals, Goods, and Messages	100,345	5,423	285,686	7,479	24,600	153	61,055	535
9. Persons Possessing or Working the Land, and engaged in Growing Grain, Fruit, Grasses, Animals, and other Products	385,193	129,600	1,421,354	454,421	1,261	167	13,348	2,490
10. Persons engaged about Animals	12,454	225	86,528	1,055	1,054	3	8,810	40
11. Persons engaged in Art and Mechanic Productions, in which Matters of various Kinds are employed in combination	121,928	5,288	624,503	11,617	16,600	2,791	114,476	5,332
12. Persons Working and Dealing in Animal Matters	91,087	84,383	293,531	162,862	7,794	3,421	40,004	16,321
13. Persons Working and Dealing in Matters derived from the Vegetable Kingdom	192,976	185,229	654,859	341,950	14,805	2,393	86,110	16,368
14. Persons Working and Dealing in Minerals	209,970	24,428	677,476	34,330	6,974	259	47,058	1,531
15. Labourers and Others, Branch of Labour undefined	61,320	2,461	322,788	9,217	7,187	206	45,240	832
16. Persons of Rank or Property not returned under any Office or Occupation	614	1,868	33,081	136,536	122	277	7,818	25,662
17. Persons supported by the Community, and of no specific Occupation*	17,879	15,667	39,444	84,412	1,807	1,355	2,390	6,620
Other Persons, of no stated Occupation or Condition	14,207	33,080	54,786	73,780	1,625	4,501	11,347	13,294

* Classes 5 and 17 include only those of the Persons described who are not returned in any of the other Classes.

As an example of the manner of the sub-division, the following Tables of Classes III., IV. and XI. are given, as being of more direct interest in these pages:—

CLASS III. *Persons engaged in the Learned Professions, &c.*	GREAT BRITAIN AND ISLES.				LONDON.			
	Under 20 Years of Age.		20 Years of Age and upwards.		Under 20 Years of Age.		20 Years of Age and upwards.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Sub-class 1. Clergymen and Ministers	70	—	29,977	—	5	—	2,388	—
„ 2. Lawyers	713	—	17,709	—	160	—	5,703	—
„ 3. Physicians and Surgeons	2,094	—	20,289	—	531	—	5,100	—
„ 4. Church Officers	172	8	4,401	893	28	3	500	526
„ 5. Law Clerks, Court Officers, and Stationers	5,664	1	13,495	12	1,530	—	5,401	8
„ 6. Chemists and Surgical Instrument Makers	3,738	44	12,408	505	377	26	2,690	122
CLASS IV. *Persons engaged in Literature, &c.*								
Sub-class 1. Authors	138	3	2,728	112	32	2	1,098	63
„ 2. Artists	954	62	7,646	486	362	29	3,357	309
„ 3. Scientific Persons	24	3	442	22	10	—	141	5
„ 4. Teachers	3,576	8,250	30,802	63,716	457	1,314	4,285	11,185
CLASS XI. *Persons engaged in Art and Mechanic Productions.*								
Sub-class 1. Books	10,390	1,909	31,034	3,655	3,231	1,022	13,206	2,114
„ 2. Plays (actors)	116	179	1,389	640	36	90	535	264
„ 3. Music	1,783	180	8,989	719	866	55	4,551	254
„ 4. Pictures and Engravings	2,126	129	7,934	299	674	51	3,719	174
„ 5. Carving and Figures	744	1,567	2,426	1,655	361	1,381	1,457	1,440
„ 6. Shows and Games	615	218	2,311	841	174	64	846	347
„ 7. Plans and Designs	863	15	4,925	31	168	2	1,229	5
„ 8. Medals and Dies	123	6	372	8	19	—	105	6
„ 9. Watches and Philosophical Instruments	4,008	135	17,899	336	869	11	5,565	82
„ 10. Arms	1,820	46	5,954	187	182	5	1,097	50
„ 11. Machines	10,256	263	44,563	370	982	—	5,997	9
„ 12. Carriages	2,591	20	14,040	169	442	6	4,545	75
„ 13. Harness	2,871	187	15,037	544	260	18	2,392	76
„ 14. Ships	5,931	—	25,905	28	596	—	4,473	4
„ 15. Houses	66,729	19	389,147	747	6,988	3	59,451	126
„ 16. Implements	6,583	2	34,541	110	227	—	2,368	13
„ 17. Chemicals	4,329	413	18,046	1,278	534	83	2,940	293

It must be remarked, that each of these sub-classes is divided into further detail, *ex. gra.*:—In Class III. in Great Britain, Sub-class No. 1 comprises 18,587 clergy of the Establishment, and No. 2, 3,111 barristers, and 13,256 solicitors; whilst in No. 3, 2,321 are returned as physicians, and 15,163 surgeons and apothecaries.

In Class IV. the sub-class 2 includes 4,915 painters, many being drawing-masters, whilst many of the 2,971 returned as architects in Great Britain (1,114 of whom are in London), are undoubtedly builders; "and here," says the Report, "the want of a better nomenclature is felt." To account for the singular few returned under No. 3, many undoubtedly are returned under the learned professions.

In Class XI. No. 15, comprises nearly 7 per cent. of the total males, of twenty and upwards of Great Britain: amongst these are 2,595 surveyors, 11,741 builders, 155,254 carpenters and joiners, 58,848 bricklayers, 87,338 masons and paviors, 6,255 slaters, 15,036 plasterers, 1,529 paperhangers, 51,382 house-painters, plumbers, and glaziers. Besides these, there are many connected with building that appear under other classes. Class XIII. includes 3,821 timber merchants, 32,436 sawyers; and in Class XIV. 23,333 are engaged as stone, 6,422 as slate, 5,423 as lime quarriers; 1,287 are marble masons, 23,374 men, and 6,586 youths, brickmakers; 4,873 are carvers and gilders. The copper, tin, lead, and iron mines employ 18,468, 12,912, 16,680, and 27,098 males respectively. The locksmiths' and bellhangers' are 6,332, and in the manufacture of nails, 28,533 persons are employed, 18,548 are males; 40,046 males are returned as engaged on railways, *exclusive* of 10,032 as road labourers specifically so returned.

In the elaborate tables of the *birth-place* of the *inhabitants* which have been framed, it appears that the soldiers and seamen abroad being deducted, 20,959,477 remain as the population of Great Britain: of these 17,234,490 were born in England and Wales, 2,754,360 in Scotland, 122,808 in the islands in the British seas, 733,866 in Ireland, 41,316 in the British colonies, and 72,637 abroad, 12,774 of the latter being British subjects. Of foreigners in Great Britain, there appear to be 56,665; but the number of British subjects abroad who are not counted in the population greatly exceeds these; 20,357 alone being returned as living in France.

The returns of the blind give a total of 21,487, or *one* in every 975 of the total population; but nearly one half of these are above sixty years of age.

The number of deaf and dumb is 12,553, or *one* in every 1,670. The number of the public institutions was given in the first Report: by further investigation, the present reports more accurately their numbers, ages, and occupations.

The concluding note in the Report states that the cost of the last census of England and Wales, exclusive of postage and printing, was at the rate of 5*l.* 9s. for every 1,000 of the population; whilst in 1851, when the inquiry was greatly extended, it was but 5*l.* 4s.

OCTAVIUS HANSARD.

WHITEHALL AND DOWNING-STREET.

IN my last communication, I suggested a design for a range of public offices on the site of Gwydyr House, Whitehall, to form a large and handsome building in continuation of, and in unison with, the Banqueting-house or Royal Chapel. By a curious coincidence, a discussion arose about the same time in Parliament, on the oversight of the Government, in having suffered the lease of Montague House to be renewed. Upon this point I shall not presume to offer an opinion, but there is no doubt that had the Government of the day thought proper to retain possession of the Crown lands adjoining Whitehall, as the leases fell in, they would have had ample space *for all the public offices in London*, and they might at the same time have let off a very valuable frontage towards the river for building private houses of the first class, like those of the Marquis of Ailsa and Sir Robert Peel!

Instead, however, of thus availing themselves of land already belonging to the Crown, they

purchased, nearly twenty-five years ago, at a very great expense, a large block of houses in Downing-street, Fludyer-street, and King-street, and so great was their haste to obtain possession of the ground, that they also bought up the interest of the leaseholders, and even compensated tenants-at-will for waiving the customary notice. The houses were pulled down without delay, and yet, from that day to the present, not a single brick has ever been laid for any new building, and high rents have been paid all the time for private houses in various situations. What an enormous loss has thus been occasioned to the public! whereas, if the old houses had been kept up till the ground was actually wanted, all the compensations, except to the ground landlords, would have been saved, and the rents would have brought in a large annual return for the original outlay. The present Government are of course not answerable for this serious blunder, but there must have been a great fault somewhere, and a reckless neglect of the public welfare and interest.

We are now given to understand that it is intended to rebuild the Secretary of State's offices on this site, and whenever this is done, I hope it will be a part of the plan to leave a handsome opening, with an ornamental gate, into St. James's-park, at the end of Downing-street, which would form a striking vista in a line with Richmond-terrace. I think it would also afford a distant view of Buckingham Palace. This entrance into the park might in time supersede the dark and gloomy one by the Horse Guards, and relieve the public offices in that building from the constant noise and vibration of carriages passing under the archway.

I have a strong opinion that Richmond-terrace, with such a termination towards the park as I have here suggested, would have been the best line for the new Westminster-bridge. It would then have been removed to a sufficient distance from the houses of Parliament, and would have fallen better into the line of the Bridge-road, at Lambeth, than the old course does; but the plans of the Government seem too far matured for so important an alteration to be entertained.

A Middlesex Magistrate.

THE HOLIDAY QUESTION.

We have 365 days a year; 52 Sundays and 313 working-days,—six working-days to one Sunday. Taking these figures, a reverend divine has made a very sensible suggestion. He says that the 52 Sundays have been consecrated for a special purpose, in which we are all very specially interested; that, as we consist of body and soul, and both must be attended to in order that we may be altogether happy, the 52 Sundays must be considered as the soul's days, and the 313 working-days as the body's days. "But then," say some, "we are so terribly hard worked on the 313 days, that we cannot attend to our souls' affairs properly on the 52 days; therefore let us have some of the 52 days for the ease of our bodies." "No," says he, "that is bad logic. The 313 days are for the good of your bodies; not for the bad of your bodies. If you overwork your bodies on the 313 days, you are misusing these days." "But we cannot help ourselves," say they: "the 313 days are working-days, and we must work them out." "O! ho," says he, "that's your logic again. Now, if you cannot stand 313 days' hard work in the year, without being so overworked as to force you to rob your soul of some of the 52 days, you must work less than 313 days a year: you had better begin by turning 13 of these days into holidays. You will then have 52 days for your souls; 300 days to work for your bodies, and 13 days to let your bodies take their ease." I do not mean to say that these are Dr. Cumming's words; for he is a gentleman who is a great preacher, and, of course, likes to say things grandly: but this is the short of what he says, and very sensible it is. Why, on earth, are we to work ourselves to death in order to live? Why are we to overwork our bodies so as to hurt both them and our souls? Why are people in other countries to have week-day holidays and we to have none? Why are we to rob Peter to pay Paul? Why are our employers to force us to spoil our Sundays in order that they may get 311 days' work a year out of us,—that is, 313 days, less Christmas Day and Good Friday? Now, I am a very hard-working man, and I know what overwork is, and I know also the good of moderate work. I was lazy till 16; then I had five years' moderate work: when I came of age I was all the better for not having been overworked before I came to my strength. For nearly thirty years I have worked about as hard as any man in London, scarcely ever taking a holiday; but I find that it will not do to go on so. I am obliged to make holiday now,—to cut down my 311 days to less than 300. And if 311 days' work would be too much for me, who was not overworked when young, it must be far too much for those who had, as too many of our working men have had, some of their pith taken out of them while they were growing.

But many will say, "We cannot afford to give up 13 working days: what shall we do for wages?" That is all nonsense: if every man, woman, and child kept 13 holidays a year, we should all be as well off as now. You say, "A fair *day's* wage for a fair *day's* work:" try another cry, and say, "A fair *year's* wage for a fair *year's* work." If we all kept the 13 holidays we should get the same wages in the year as we do now. We could do more in 300 days, with 13 holidays to give us a spring every now and then, than we can do in the 313 days without the spring. Nothing is so bad for a horse as all collar-work: I have tooled a four-horse stage-coach in a hilly country in my younger days; and I well recollect how we went up a hill when we had just had a bit of down hill, with a hand gallop along the little bottom between the two. That is just what we want on our journey through this world,—a steady trot through 300 days, with a springing hand gallop on 13 days every here and there, and a quiet rest at the end of every one of the 52 stages.

N. R.

PROVINCIAL NEWS.

Alverstoke.—The following tenders were delivered on 2nd inst. for alterations and additions to the Alverstoke House of Industry, near Gosport, Mr. W. Pines, of Portsea, architect; quantities supplied:—

Rogers (Gosport)	£856	0	0
Willis and Senior (Gosport)	787	16	0
Camwell (Portsmouth)	761	0	0
Rapley (Gosport)	760	0	0
Smith (Portsea)	719	0	0
Bramble (Portsmouth)	713	0	0
Absalom (Portsea)	688	0	0
Aylen (Portsea)	675	0	0
King (Portsea)	628	0	0
Callaway (Southsea)	613	11	0
Dotterill (Gosport, accepted)	580	0	0
Hodges (Portsea)	540	0	0
Davis (Southsea)	523	0	0

Swansea.—The centre, or great point stone, of the entrance-gates of the dock works was laid, with some formality, but without public demonstration, on Tuesday in last week, by the mayor of the town and secretary of the dock company, Mr. G. G. Francis, F.S.A. The stone came from the Craigleith quarries near Edinburgh, and weighed seven tons. Under it were placed the various current coins of the realm, expressly obtained from the Bank of England, together with plans and detailed statement of the works, &c. The contractor, W. Pickering, and resident engineer, Mr. Neill, proved the levels to be correct.

Wallasey.—The local Board of Health have resolved to obtain plans and estimates of the best system for the general drainage and sewerage of the district; also, to obtain the opinions and estimates of competent engineers on the best and most economical water supply for the district. The chairman read a letter which he had prepared to be forwarded to Lord Shaftesbury, expressive of confidence in the General Board of Health, and testifying to their general courtesy and consideration whenever consulted.

Grantham.—The waterworks company, established on the constant supply principle, has found difficulty, it is said, in providing its customers with even an intermittent supply. No cisterns are used. The question is asked whether the company, having failed in its contract, can compel payment for the water. The deficiency is attributed to a leakage in the earthenware pipes from the spring at Stroxton to the tank on the top of Spittlegate-hill. This conclusion is arrived at from a calculation showing that much less water flows from the pipes into the tank than enters them at the spring. As these pipes traverse a distance of four or five miles, and pass under corn-fields, the attempt to discover the leakage is regarded as almost hopeless.

Grimsby.—A discussion has recently taken place in the local Board of Health on the merits of a letter received from Mr. H. Austin, engineer to the late general board. Mr. Austin was of opinion that the waterworks, as proposed by Mr. Rendel, could not be carried out for less than 30,000*l.* and thought the proposed works perfectly unnecessary: he stated that a complete system of more suitable and more efficient works than those before the board could be carried out for the sum of 17,000*l.* It was at length determined to send a copy of the letter to Mr. Rendel, who, it is said, gave evidence in the House of Commons, when the private Act was obtained, and stated that these works could be carried out for 15,000*l.* Mr. Austin, on the other hand, states that at the present price of materials and labour, 30,000*l.* must be required to carry Mr. Rendel's plans out, and that a rate of 3s. in the pound will be required to meet the expenditure, or one-half as much more as the Act provides for.

Kelso.—At a recent meeting of the local police commission, reported in the *Kelso Chronicle*, the report and estimates of Mr. Brunlees, of Manchester, engineer, for the sewerage and water supply of the burgh, with the relative plans, sections, &c. were laid before the commissioners. The engineer proposed a system of sewerage with three outlets, at a cost of 3,500*l.* in all, exclusive of a manure tank (160*l.*) at the principal outlet, and from which he estimated that an annual profit of about 300*l.* would accrue. The principal sewers, he proposed, should be brick barrel culverts and rubble side walls and arch, and the minor sewers earthenware pipes. The water supply might be drawn from the Tweed by pumping, from West Broomlands by draining and pumping, or from Eden water about Stitchel Linn, on the gravitation principle. The last, though the most expensive to begin with, was recommended in preference to either of the others. A large reservoir near the Shoulder of Mutton would be also required. The cost of pipes and reservoir would be about 1,500*l.* The whole cost of supply would be 3,473*l.* and the annual charge of management, including interest of capital, the engineer estimated at 224*l.* The annual income would be 250*l.* and an annual profit of 26*l.* would result.

POLYTECHNIC INSTITUTION AND WORKMEN.

Among many sects it is thought from time to time advisable to have what are technically called revival meetings, when it is considered necessary, either from dormant zeal, or more enlarged views of usefulness, to give a fillip to a congregation. The latter course, we are pleased to see, was alone the object of the large gathering at this institution on Monday evening last, when an inaugural lecture was delivered by the Rev. Bath Power, principal of the Diocesan Schools of Norwich, on the Advantages of a Knowledge of Science, introductory to a course of Monday evening lectures, to which the industrial classes will be admitted at the reduced charge of 6d. each, the foremen of factories being provided with tickets, for distribution, giving the right of admission on these terms.

The world of London need not be told, that if a new discovery in science is made, either in Europe or America, they have not long to wait before all that can be known on the subject is brought before them in a popular shape, either by the present director, Mr. Pepper, or his worthy coadjutor as lecturer, Dr. Bachhoffner. The thousands who have from time to time received amusement and instruction at the Polytechnic, have now an additional pleasure to reflect upon, that is, that their contributions as admission fees will enable the director to afford to a wider circle the advantages of the institution; and if the reception afforded to the lecturer on Monday night, and the evident relish with which his remarks were listened to, afford any index to the *success* of the experiment, that end is a "fact accomplished."

THE NEW MUSEUMS, &c. TRINITY COLLEGE, DUBLIN.

I WAS not a little surprised on looking over your publication of last week to find in it a description of the new museums, &c. now in course of erection in Trinity College, Dublin, attributing to Messrs. Deane and Woodward the whole and sole direction of it. I was unwillingly obliged, on a former occasion, to appear in your columns in order to set the public right as to the truth of the circumstances connected with this building. How much the more does it grieve me now to be obliged again to appear in print to disabuse the minds of your readers respecting this building, which is now being erected, *on my plans and under my superintendence*, the elevations and external decorations being from the office of Messrs. Deane and Woodward. I must regret the temerity which has caused your informant to give so unfair and incorrect a statement to the public. I wish in no way whatever to appropriate to myself the portions of this building which have been designed by Messrs. Deane and Woodward, or rather (as the paragraph, in one case, correctly states) by the workmen; but while giving those gentlemen all merit for their portion of the edifice, I am quite as determined that the plans and internal arrangements which have been made by me, and to one line of which they have not the most remote title, shall not be put to the credit of the Messrs. Deane and Woodward.—JOHN MCCURDY. [It is due to ourselves to say that in the correspondence we had on the subject with the Messrs. Deane and Woodward, Mr. McCurdy's name was never mentioned, and that all the working drawings of the exterior, to which our illustrations refer, are signed by the first-named architects alone. This, it will be seen, is quite consistent with Mr. McCurdy's claim; but a little more candour, if that claim be correct, would have prevented misconstruction.]

DESTRUCTION OF MR. THOMAS CUBITT'S ESTABLISHMENT.

OUR readers, we are sure, will hear with great regret, that the establishment of Mr. Thomas Cubitt, at Millbank, which we have more than once noticed with special reference to its appliances for the advantage of his workmen, as well as for its many other improved and extensive arrangements, was destroyed by fire, on the night of Wednesday last. A want of water unfortunately paralyzed the exertions of the firemen, and the flames spread with wonderful rapidity, throwing a singular glare over the river and its opposite bank. It happened that we saw the outbreak of the fire, and in a space of time surprisingly short, it seemed as if a town were in a blaze. We shall but give expression to the feeling of all who know Mr. Cubitt, when we say that we sincerely sympathize with him, and hope that his loss personally may not be large.

Notices of Books.

The Gilbart Prize Essay on the Adaptation of Recent Discoveries and Inventions in Science and Art to the Purposes of Practical Banking. By GRANVILLE SHARP. Third edition. London: Groombridge and Sons. 1854.

WE have already noticed this essay with commendation. It now assumes the form and dimensions of a substantial volume, much matter having been added both to the essay itself and in the shape of an appendix containing a large collection of curious matter, such as engravings showing improvements and novelties in a multitude of instances, in any way capable of promoting the safety, convenience, healthfulness, or comfort of banking edifices, and even forms of envelopes, wax impressions of office seals of an improved description, &c. &c. Amongst the engravings, too, are portraits of Mr. Gilbart and Mr. Sharp.

In respect to arrangement of the work as it now appears, it may be a question whether it would not have been better to have sacrificed the original form of the prize essay to the acquirement of a more strictly methodical form and order of parts in the whole composition. This may yet be carried out in a succeeding edition, which will doubtless be called for.

VARIORUM.

THE August number of the *Ecclesiologist* contains a valuable paper on the Royal Monastery of Batalha, in Portuguese Estremadura, by the Rev. J. M. Neale, with an illustrative plan. Santa Maria da Victoria, at Batalha, is well known to us all by the work of James Murphy, to whom, probably, we are indebted for the preservation of the structure by the regard for it which he induced; but his views were published at a time when Christian art was little understood; and, according to Mr. Neale, "there are gross and absolute blunders in many of them, which it is wonderful that any professed architect could have made.——"The Travellers' (Shilling) Library" of Messrs. Longman and Co. still thrives and multiplies. No. 65 is on that very interesting modern Mahomet, "Schamyl, the Sultan, Warrior, and Prophet of the Caucasus," and is a translation from the German of Dr. F. Wagner and F. Bodenstedt, by Mr. Lascelles Wraxhall. No. 64 is a reprint, with corrections, from the "Geographical Dictionary," of McCulloch's "Treatise on Russia and Turkey;" and Nos. 65 and 66 form the first series, in two parts, of Laing's "Notes of a Traveller on the Social and Political State of France, Russia, Switzerland, Italy, and other parts of Europe during the present Century." All of these are well timed as well as interesting numbers of "The Traveller's Library."——Gilbert, of Paternoster-row, has just published a new edition of "Ince's Outlines of English History," for the use of schools. It is revised and considerably enlarged, though not increased in price.

Miscellanea.

OPENING OF THE BRIDGEWATER EXHIBITION.—On Saturday in week before last, Bridgewater was in complete holiday attire, and seems to have formed one great flower-show in the midst of a forest of firs. Triumphal arches spanned the thoroughfares at every main point, and the vessels in the river were dressed in flags. The occasion was the opening of the Exhibition of Paintings, Sculpture, Antiquities, &c. for behoof of the church restorations. The paintings were hung round, and completely over, the walls of the Nisi Prius Court; specimens of natural history, articles of virtu, medals, coins, autographs, &c. crowding every available space. In the centre of the court is a fountain, in which are a number of gold fish. The other court is filled with Parian statuary, jewellery, plate, bronzes, drapery, pottery, stained glass, and articles of a miscellaneous character. Every accessible part of the building—courts, halls, galleries, staircases, grand jury room, in which is held a bazaar—contains objects vieing with each other in attractiveness and beauty. At the opening, the galleries were filled with a brilliant assemblage of ladies. The Choral Society were present, and the vicar read an address to the mayor on the objects of the Exhibition, and its origin and progress. Now that so good an idea has been so successfully inaugurated, it is to be hoped that due justice will be done to it and its excellent purpose by a crowded and continued attendance. The management ought to be able very handsomely to complete and decorate the church with the proceeds.

THE HACKNEY BROOK.—A deputation to Lord Palmerston from Stoke Newington, Kingsland, West Hackney, Stamford-hill, &c. on Wednesday in last week, represented to his lordship the necessity of having the noxious open sewer in that district built over through the parish of Stoke Newington. The cost, it was stated, would be about 20,000*l*. Lord Palmerston, after listening attentively to what was urged, expressed his strong interest in the subject, and advised the deputation to repeat their application on the reassembling of Parliament, in February next, or it might be in November preceding, as the Sewers Commission were not in a position to be able to do what was required previous to that time, and as there would then be fresh arrangements. Meantime, he assured the deputation that the matter would not escape his attention. There may be serious results before that time comes.

AUGHNACLOY (IRELAND).—The Jackson's Almhouse, which stands in a commanding situation at one end of the town, was opened on the 10th ult. The building is of the Late Tudor period, from the design of Mr. S. Symes, of Dublin, architect, and is executed in the sandstone of the neighbourhood, laid in random courses, having wrought-stone dressing, together with bold projecting eaves and ornamental gables. It contains fourteen sitting-rooms, with chambers over same, to which are added baths and wash-houses for the male and female departments, together with a room for the committee or general purposes. The grounds are laid out in terraces and slopes. This almshouse for unfortunate persons 50 years of age, was built and endowed under the bequest of the late Mr. Alexander Jackson, M.D. of Dublin, who left for this object the sum of 10,000*l*. Aughnacloy was the birthplace of Dr. Jackson.

ARCHÆOLOGICAL MATTERS.—The archæologists of Royston have just discovered under the heath near Cambridge, numerous passages, chiefly of a circular form, about 2 feet in width, and at the depth of about 6 feet from the surface, surrounding central blocks of chalk, also perforated into chambers or grottoes. From the circular passages others diverge, and several have been traced into a trench. In the principal passages, surrounding one of the central blocks, may be seen *columbaria*, resembling the ancient catacombs of Rome. In the grottoes beneath this block was found a Roman urn. Fragments of ancient British ware have also been found.——A stone with a Roman inscription has lately been turned up at Irchester. This inscription, it seems, has puzzled many, but on being referred to Mr. Roach Smith, it was soon deciphered. It appears thus on the stone:—

D. M. S.
AMICIVS · SATVRV
STRATOR COS · M › S · F

Mr. Smith says it is as follows:—

Diis Manibus Sacrum. Amicius Saturus Strator Consulis Monumentum Sibi Fecit.

——The opening of the ancient barrow on Gallibury Down, Isle of Wight, has commenced; but, from its dimensions and height, the large number of workmen employed had made but little progress at the end of the first day. It is composed of hundreds of loads of rough flints, with merely a covering of earth and turf about a foot thick.——On Thursday in last week an excursion took place under the direction of the Bedfordshire Archæological Society. The company met at Cranfield, where they were conducted to the church, which is dedicated to St. Peter and St. Paul. Mr. Langstone exhibited a quantity of Roman, Mediæval, and later coins found in the parish. The company next proceeded to Marston Moretaine. This church contains many objects of interest. It is dedicated to St. Mary. The visitors next drove on to Wootton Church, which is also dedicated to St. Mary. They then proceeded to Kempston Bury, first visiting the old mansion-house formerly belonging to Sir Wm. Long, and lately purchased by Mr. Talbot Barnard. Thence they proceeded to the church. Afterwards Mr. and Mrs. Talbot Barnard's invitation to the Hoo was accepted. Here a collation awaited them as a termination to the proceedings, and to which a party of upwards of forty sat down.

THE CHEMISTS AND THE EARLY CLOSING ASSOCIATION.—A meeting of metropolitan chemists' and druggists' assistants was held at the Freemasons' Tavern on Tuesday in last week, when measures were resolved on for closing the chemists' and druggists' shops at eight p.m. on week-days, and on Sunday throughout. A pamphlet is to be prepared, containing a plain statement of the grievances of this very hard-worked and meritorious class of the community, whose vigilance in the distribution of drugs to the public really absolutely requires that their attention should not be exhausted by long hours of labour, even out of mere regard to the safety of the public itself, were it for no other reason. It is urged, and it appears will be shown from statistics, that the purposes for which their services are required on Sundays, and after eight p.m. on week-days, have very little to do with the health of the public. Having taken a part in originating the early closing movement, we shall learn with pleasure that the chemists' and druggists' assistants have succeeded in their endeavour. A meeting of their employers, we understand, will shortly be held in favour of the movement.

NEW PIER AT BLACKFRIARS BRIDGE.—Workmen are driving piles on the south side of Blackfriars Bridge, for a landing pier, 200 feet long and 6 feet wide. The new pier is to be named "The Royal Surrey Watermen's Pier."

SHAM BUILDING.—A walk to Pall-mall just now would be most instructive to any one who would judge of the fitness and *truthfulness* of the *style* and *mode* of building now adopted, for there a respectable brick building or "core" may be seen, which might speak well for itself if allowed to do so, but in its present state it seems to imply that the *architectural character* of the work is yet to come,—sundry props and other like things doing the work hereafter to be done by finely polished columns of granite or porphyry. It would be very satisfactory if the architect or building committee would or could inform the public what use, advantage, or beauty is sought for in this net-work or casing of columns and cornices, that for the present do not either carry themselves or each other much less the main building: they really never will or can be anything else than a very expensive and ornamental packing case or crate framed about the solid package within, which, though perhaps good in itself, is not allowed to be seen. Can anything prove more thoroughly the falsity and unfitness of our style of building as thus practised.

NON NOBIS.

Strike of Crown Glassmakers.—Shields, August 12: The crown glassmakers of the Tyne and Wear are on strike. More than twelve months ago an arrangement was come to between the masters and men, that in case of a rise in glass the men should have a proportionate advance, and if prices should fall, the men should allow wages to come down. Until within the past two or three months the crown glass trade has been brisk, but in consequence of a stagnation in the building trade, the glass manufacturers have considerable stocks on hand, and about a fortnight ago they gave notice to the men of their intention to reduce their wages 6d. per 100 tables. The men, however, instead of complying with the reasonable request of the masters, have struck work, and in one house disgracefully left eight pots of metal unwrought. Like most workmen's strikes, this one is ill-advised and ill-chosen. For some years past sheet glass has been gradually superseding crown in the market, and this strike will, of course, further injure it. The sheet glass trade is very brisk, and the manufacturers can dispose of as much as they can make.—*Times.*

Iron Manufacture.—Mr. H. Brownett, of Liverpool, has patented a method of treating scrap and waste iron so as to render the same more readily available in the manufacture of iron. The inventor takes scrap and waste iron, and collects it together in a box, frame, or binder, and submits it to great pressure, thus forming blocks or masses convenient for stowage and carriage.

Open Spaces.—There is an article in the *Law Review* for the present month titled "Where shall the New Law Courts be built?" The author objects strongly, on sanitary grounds, as we do, to the occupation of Lincoln's-inn-fields, and advocates the site proposed by Mr. M. D. Hill, between Bell-yard and Clement's-inn, and recommended by Sir C. Barry in preference to the Fields. As truly observed by the writer, —"Take Lincoln's-inn-fields and you create a nuisance: take the Strand site and you destroy one"—and what is more, convert a positive nuisance into a comparative benefit, even though still to be so far occupied by buildings. The advocates of Lincoln's-inn-fields site are still, it seems, bent on their project. We must urge, therefore, more than ever, the necessity of carefully and jealously preserving it amongst our few remaining open spaces.

Boston Corn Exchange and Athenæum Competition.—Fifteen designs for this building have been received. We understand three have been selected for final discussion, bearing respectively the signatures of "Fides," "Fidelitas," and "London."

A Willow Dock.—Such a dock is now being built at La Crosse, Michigan. It is constructed entirely of willow twigs, about 12 feet long, bound in bundles 1 foot thick, which are so ingeniously arranged and woven together that it is impossible for sand to work out or the water to work in. Each bundle contains about 100 small trees, and it will take 50,000 of these bundles to complete the work. It is said that the willows will sprout and grow, rooting firmly together, thereby forming a living superstructure which will last for ages without the least tendency to decay. Docks like these occur very frequently on the banks of the Rhine in Germany.

"The Wiltshire Archæological and Natural History Society" announces its first anniversary meeting at Salisbury on the 13th of September, under the presidency of the Right Hon. Sidney Herbert, whose fine mansion of Wilton House, with its interesting galleries of art and literature, will be freely opened to the members one day. The unique cathedral, the bishop's palace, ancient churches, and domestic buildings in the city, with Old Sarum, Salisbury plain, with its almost countless castrometations, barrows, and British earthworks; and lastly, the wonder and mystery, *Stonehenge*, will afford abundant objects for amusement, study, and reflection to the members and visitors.

Banbury.—I was truly sorry, on visiting Banbury, Oxon, yesterday, to see that they were about to pull down the old gaol, a building in good order, with walls above 4 feet in thickness. It is a great pity, being one of the few (remaining) old buildings in Banbury; one where many a Cavalier and Roundhead by turns have been confined. Do try and avert its doom.—H. K.

St. John's Church, Lowestoft. — With reference to a notice of the opening of this church, which appeared in our journal lately, we have received statements from Mr. John Brown, whose design was originally accepted, and Mr. Lacey, the builder who sent in the lowest tender for the execution of that design, complaining, singly, of the course which was pursued towards them, and reflecting on the conduct of those by whom the church has been erected. The architect, they state, was the clerk of the builders, and the builders, at least one of the firm, were on the committee for obtaining designs, and erecting the church.

Telegraphic Progress.—The British Telegraph Company has completed an arrangement with the European, by which the two become one, under the former title. The purchase has been effected by the payment of 100,000*l.* in shares of the British, and 30,000*l.* in cash. The public are interested in this arrangement, as a more complete system of communication is established with more moderate charges, which, in some instances, amount to as much as one hundred per cent. on the cost of a message, besides which the fee for porterage is abolished, and the number of words contained in names and addresses are no longer subject to charge.——The project of connecting, telegraphically, Great Britain with America is still, it would appear, seriously engaging the attention of scientific and commercial men. Daring engineers are sanguine of the practicability of laying a submarine cable directly across the Atlantic, from Galway to Cape Race, in Newfoundland. The chief question is, whether, if a line were laid, an electric current can be passed through three thousand miles of cables? Professor Faraday and others, as we have already noted, believe that it could not. Hence the greater number of scientific men are said to favour the route to America *viâ* Scotland. "To escape the at present dubious ocean path," says a writer in the *Quarterly Review*, "it is proposed to carry the cable from the northernmost point of the Highlands of Scotland to Iceland, by way of the Orkney, Shetland, and Ferroe Islands—to lay it from Iceland across to the nearest point in Greenland, thence down the coast to Cape Farewell, where the cable would again take to the water, span Davis' Straits, and make right away across Labrador and Upper Canada to Quebec. In no part would the cable require to be more than 900 miles long; and as a sand bank seems to extend to Cape Farewell, there would be little difficulty in mooring to a level and soft bottom. The only obstacle that we see is the strong partiality of the Esquimaux for old iron. The mere expense of making and laying the cable would not be much more than double that of building the new Westminster-bridge." Another obstacle besides the Esquimaux seems to have been as yet overlooked, except by ourselves, namely, the dragging influence of icebergs from the Arctic regions, which frequently plough up the bottom of the ocean, and must inevitably cross the path of the proposed telegraph *viâ* Iceland and Davis' Straits

Exhibition of the Belfast Fine Art Society. —We are glad to hear that the modern works of art lately exhibited at Belfast have sold well. The paintings were numerous, and a good many have been sold at prices ranging from 73*l.* 10s. downwards. Amongst those sold we may note a few, such as G. E. Herring's "Gulf of Spezzia," A. G. Woolmer's "Birds' Nest," T. Lound's "Pembrokeshire Coast," Fanny Geef's "Meditation," G. Bonavia's "Enfans Egarés," C. L. Nursey's "Muslin Sewer," C. Springer's "View in Groenlo," G. Stubbs's "From Market," E. G. Müller's "Santa Maria della Salute, with the Dogana, Venice," &c. &c. The success in effecting sales appears to have been much greater than could have been anticipated.

Aylesbury Church.—Observing in your last number a statement (from a local paper), highly prejudicial to the contractor for the execution of the fittings in Aylesbury Church, I beg to give at once my opinion that the statement is unfounded, and has arisen from the miserable jealousy of unsuccessful candidates for the work. I have reason to believe that the material is excellent, and of the quality specified.—Geo. Gilbert Scott.

New Parks in the Metropolis. — A parliamentary paper just issued, shows the amount contributed by the public to each of the new parks. Primrose-hill: purchase-money, 23,442*l.* defrayed out of land revenues of the Crown in 1842: expense of enclosure and bridges, 3,205*l.* 17s. 11d. Kensington: given by Duchy of Cornwall: expense of formation estimated at 3,554*l.* 19s. 7d. of which 720*l.* raised by local contributions. Victoria: cost 129,718*l.* 2s. 9d. of which 115,683*l.* 14s. 4d. produce of sale of York House: remainder defrayed out of land revenues of Crown: annual expense of maintenance, 2,000*l.* of which about 500*l.* from grazing rents, and remainder voted by Parliament. Battersea: cost up to 31st March, 1854, 222,079*l.* 6s. 5d. of which 200,000*l.* advanced by Public Works Loan Commissioners, and remainder voted by Parliament: about one-half of land purchased to be appropriated as building ground towards defraying cost.

Quicklime in Scotland.—A large mountain, Zore-More, near Applecross, on the west coast, on being accidentally excavated, presented a substratum of pure quicklime, within 5 feet of the surface; and by a further excavation, it was ascertained that the whole mountain, except an average surface of 20 feet, consists of lime fit for building or agricultural purposes. On the summit volcanic remains have been found.

The Plate-Glass Insurance Company.—A general meeting of shareholders was held on Wednesday in last week, when it was stated that it had been found necessary to extend the guarantee of plate-glass insurance to the provinces, as well as to Scotland and Ireland; that in one week 17,500 shares in the Plate-glass Universal Insurance Company were subscribed for; and that that company would now assume the direction of affairs. A dividend of 10 per cent. per annum was declared. The statement of accounts showed on the debtor side an amount (including 614*l.* 11s. 8d. surplus) of 2,290*l.* 2s. 4d. and on the credit side (including 529*l.* 14s. 6d. balance at bankers and in hand) a like amount. The chairman observed that the success of the undertaking had far exceeded their most sanguine expectations, and was rapidly increasing. The report was unanimously adopted.

The National Armoury at the Tower.—Having on several occasions exposed the mismanagement of the national collection of armoury at the Tower, we may add to what has already been said that in the quarterly "Journal of the British Archæological Association," printed for the Association (by Richards of Great Queen-street), we find the following statement, in an article, by Mr. Planché, "On English Helmets," in reference to French purchases:—"The plate accompanying this paper gives to the public a *second series* of helmets, of the principal forms from the fifteenth up to the twelfth century, all drawn from the originals discovered in this country! Alas, that so many should have been suffered to leave it; that we must seek in the *Musée d'Artillerie*, at Paris, for such unique specimens of the armour of our ancestors! I have just returned from an inspection of that interesting and finely-kept collection, and can safely declare that the majority of the rarer examples of helmets contained in it has been obtained from England at four and five times the sums offered by the parties to whom is entrusted the conservation and management of our national armoury."

Great Bridge in Canada.—A letter from Montreal, July 24, says—"The preparations for receiving the first stone of the Montreal Victoria Tubular Bridge—the connecting link between the Far West and the Atlantic seaboard—have been completed. Mr. Hodges is the manager of the affairs of the contractors.

Statues of Lord President Boyle and Lord Jeffrey.—Permission of Government is said to have been obtained for placing these statues in the recesses formerly used as Lord Ordinaries' Courts, on the East side of the Outer House of the Court of Session at Edinburgh. Lord Jeffrey's statue will probably be placed in its position before the meeting of the court in November.

Ancient Remains at Gloucester.—During the sewerage excavations in Westgate-street, the workmen came upon a part of the foundations either of Holy Trinity Church, removed about a century and a half ago, or of its tower. A stone ring, which is supposed to have once formed the upper part of the font, also turned up. In laying down the drainage-pipes in some of the streets where a deep cutting is necessary, a tunnel has been made with openings at short intervals. This plan of carrying on the works has been adopted in Longsmith-street; and while working in one of these headings, the excavators came upon the corner of a Roman tesselated pavement, in excellent preservation. Another tesselated pavement was found in the same street, about 20 feet from that first discovered, and 10 feet from the surface. An encaustic tile floor is spoken of as having been discovered in Westgate-street.

TENDERS

For the erection of national schools and teachers' residences, in the parish of Charles, Plymouth. Mr. W. Damant, architect. Quantities supplied by Mr. R. Elliott:—

J. Hicks	£5,610 15 3
W. Roberts	4,944 0 0
J. Matcham	4,900 0 0
W. H. Pethick	4,687 16 4
J. Marshall	4,600 0 0

TO CORRESPONDENTS.

"On the Present State of Taste."—We are forced to postpone the completion of Sir Gardner Wilkinson's papers.

"City Cemetery Tenders."—The second tender for the enclosure of new City cemetery was from Mr. Gerish, not Geust.

"F. and W." "E. L. C." "W. S. I." "T. R." "H. R. I." "J. B." "G." "H. S. B." "An Architect," "O. H. H." "F. P." "D. M." (declined with thanks), "J. V." (we cannot avail), "F. P." (there is no method that can be depended on), "F. T." (the total cost of St. Paul's, including the railing, was 747,954*l.*)

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the Editor, and not to the Publisher.